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THE NGD STAFF PLANNING MODEL
A SPREADSHEET APPLICATION FOR GENERATING DIVISIONAL STAFFING PLANS

Report No. 88-191-K

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ABSTRACT

A spreadsheet application package was developed for the Planning & Administration Section of the Central Nuclear Training Department which allows NGD staffing plans to be automatically generated from basic job family staffing data. This report contains a User's Guide which explains how to use the package, and a Technical Reference Manual which describes the design features of the application. The package was developed using Microsoft EXCEL on a Macintosh SE computer.

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To Mr. G.H.J. Phillips
Acting Manager
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THE NGD STAFF PLANNING MODEL
A SPREADSHEET APPLICATION FOR GENERATING DIVISIONAL STAFFING PLANS

The Planning & Administration Section of the Central Nuclear Training Department produces staffing plans for the Nuclear Generation Division. The existing process uses several LOTUS 1-2-3 spreadsheets to represent the staffing plans for the Division. However, since LOTUS 1-2-3 does not have the capability to conveniently link the spreadsheets together, any changes to the staffing plans require the spreadsheets to be manually updated in order to remain consistent. This is a very time-consuming and error-prone process.

The NGD Staff Planning Model, developed by the Reliability and Statistics Section of the Operations Research Department, was designed to automatically maintain data consistency throughout the staff planning process, and to reduce the manual effort needed to generate the NGD staffing plans. The application was developed on a Macintosh SE computer using Microsoft EXCEL.

The Appendix to this report includes a User's Guide and a Technical Reference Manual. These documents explain how to use the package, and describe the design features of the application, respectively.

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APPENDIX

THE NGD STAFF PLANNING MODEL

User's Guide

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Technical Reference Manual

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1. User's Guide

This part of the manual describes the operating procedures for the NGD Staff Planning Model. Familiarity with the layout of the staff planning worksheets is assumed, together with a working knowledge of Microsoft EXCEL and basic operations of the Macintosh SE computer.

The information contained in this part of the manual would be of value to users wishing to generate staff plans for NGD. It does not contain information on how to make changes to the structure of the model; that material may be found in the Technical Reference Manual.

1.1. Introduction

The context of the Staff Planning Model in the Staff Planning process is shown below in figure 1. The Staff Planning Model generates the Hiring Plan, the MDS Plan, and the Training Schedule. In its current form, the Staff Planning Model consists of several LOTUS 1-2-3 spreadsheets. As the data in the spreadsheets are changed, all related spreadsheets must also be updated to maintain consistency. Since LOTUS 1-2-3 does not have a convenient linkage capability for its spreadsheets, the update process is performed manually.

The task of this project was to link the various spreadsheets of the Staff Planning Model and automate the update process. Due to time constraints, the scope of this project was limited to linking the spreadsheets for the major job families (M&P, NOP, CT, MM, and CHT) to the Hiring Plan, to the MDS Plan, and to the Training Schedule.

The new Staff Planning Model was developed using Microsoft EXCEL on a Macintosh SE computer.

Staffing assumptions and budget guidelines in the Staff Planning process are incorporated into the Staff Planning Model in the form of EXCEL worksheets. However, the actual implementation process is outside the scope of this project, and will not be discussed further.

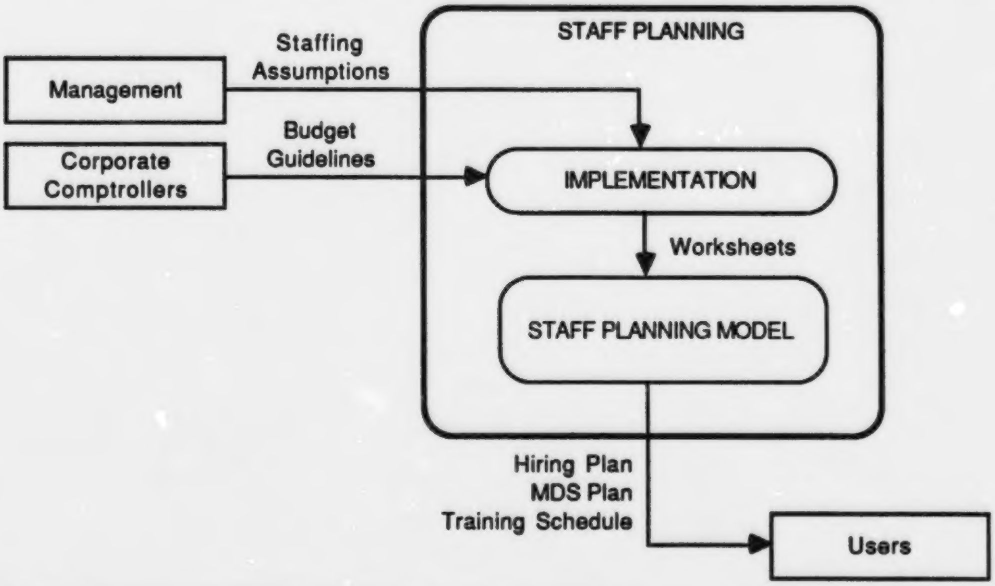

Figure 1: Staff planning process context diagram.

1.2. Overview

The worksheets and macro files which make up the Staff Planning Model were grouped under one folder, and an organizational scheme consisting of a hierarchy of folders has been designed to separate the plan which is currently being worked on from the archived plans (figure 2). The folders under each year in the "**Archived Plans**" folder represent multiple versions (or scenarios) of that year's plan. Each of these scenario folders contain a complete set of worksheets and files as found in the "**Working Plan**" folder.

This is a suggested organization scheme; the user should feel free to adopt any organization method to suit their own convenience.

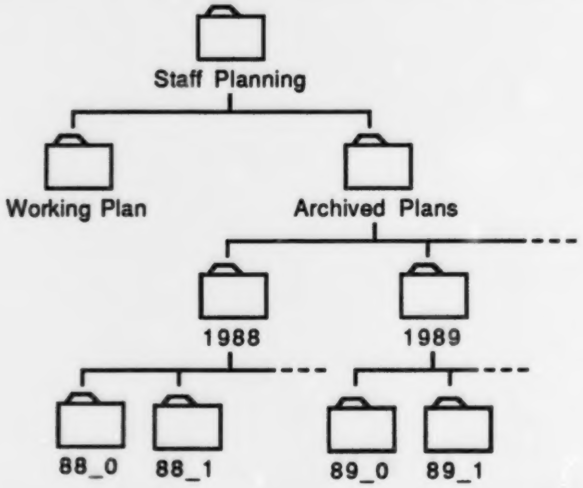

Figure 2: Organization of folders in the Staff Planning Model.

The Staff Planning Model consists of several worksheets of data (figure 3). Using Microsoft EXCEL, these worksheets were linked together to form a network. The network allows data to propagate from lower level support worksheets up to higher level summary worksheets and reports. The lowest level serves as the data entry point for the model, and contains basic data upon which all higher level worksheets depend; and a worksheet at a particular level may depend on the data in any or all of the worksheets at any lower level.

The Implementation process does not form part of the Staff Planning Model, it was included in the diagram only to show the interface between the Staff Planning Model and the rest of the Staff Planning process.

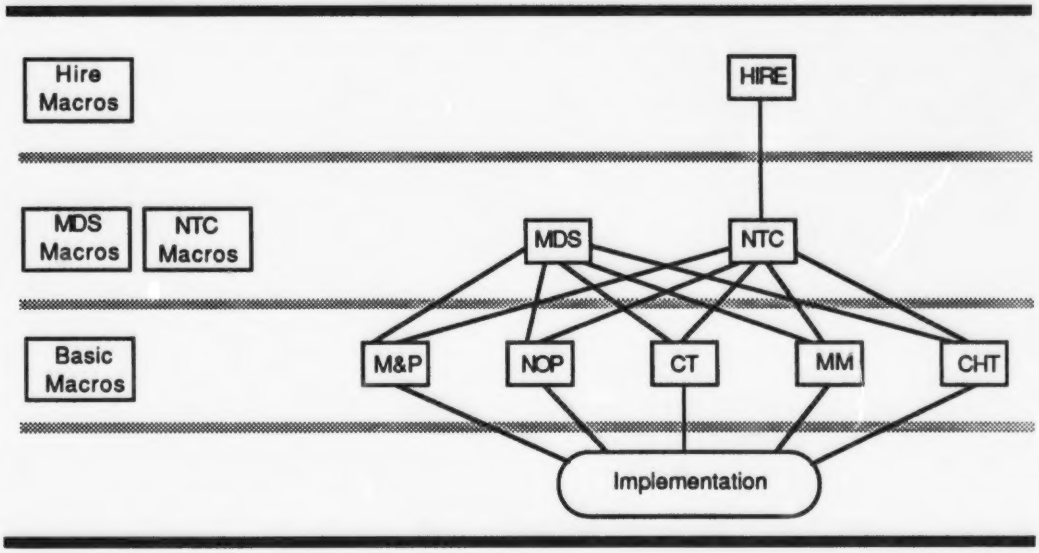

Figure 3: *Network of worksheets and their associated macro files in the Staff Planning Model. Worksheets at a particular level are directly dependant on the lower level worksheets to which they are connected.*

1.3. Archiving Strategies

From time to time there will be a need to preserve one version of the Staff Planning Model, and begin work on a new version. There are two archiving strategies which the user may follow when working with multiple versions of the Staff Planning Model.

Within the "**Staff Planning**" folder there are two folders named:

- Working Plan
- Archived Plans

The first archiving strategy involves editing the "**Working Plans**" folder until that version is completed. Then duplicating the "**Working Plan**" folder and renaming the copy with an appropriate version number. Then storing this newly created version in the "**Archived Plans**" folder under the appropriate year.

The second archiving strategy involves making a duplicate of the "**Working Plan**" folder before any editing has started. Renaming the copy of the folder with an appropriate version number, and storing the newly labeled folder under the appropriate year in the "**Archived Plans**" folder. Then working on the archived version until all changes are completed.

The choice of archiving strategy in no way affects the operation of the Staff Planning Model. The user may choose whichever strategy is more convenient, and may even switch between strategies at any time without detriment to the Staff Planning Model.

1.4. Operating Procedures

Several different icons represent the various files and worksheets within the Staff Planning Model. Figure 4 shows the different types of icons which the user may encounter.

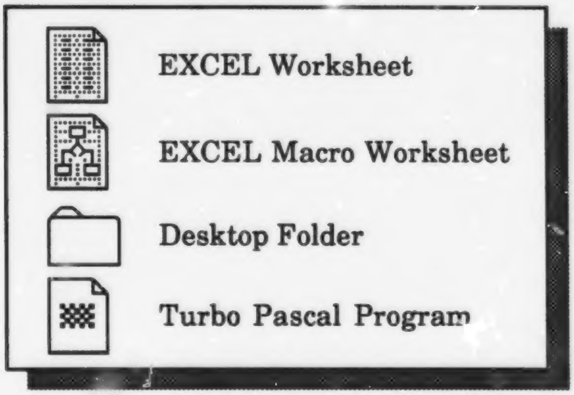

Figure 4: Different types of icons used in the Staff Planning Model.

To operate the Staff Planning Model, navigate to the working plan folder. Open the folder. The folder should contain the worksheets and files shown in figure 5.

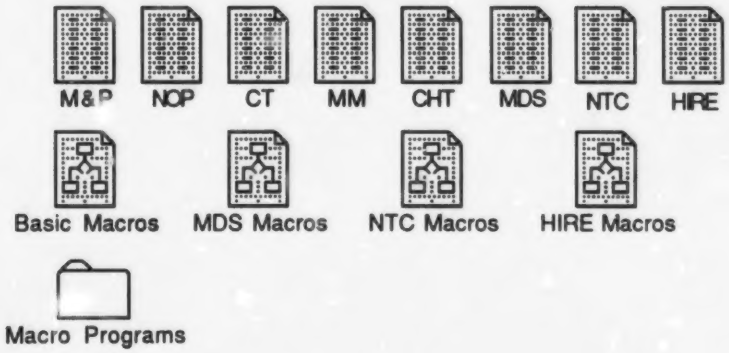

Figure 5: Contents of the Staff Planning Model working plans.

- Open the "Basic Macros" worksheet
- From the **Macro** menu, select the **Run ...** menu item
- A dialog box will appear. Select "OpenBasicFiles" from the list of macros and click on the **OK** button (or double click on the "OpenBasicFiles" name in the list of macros).

This macro will open all the basic worksheets for the Staff Planning Model. These worksheets represent the major job families, and have the following titles:

CHT	(Chemical Technician Job Family)
CT	(Control Technician Job Family)
M&P	(M&P Job Family)
MM	(Mechanical Maintenance Job Family)
NOP	(Nuclear Operator Job Family).

These worksheets should remain open at all times while working on the Staff Planning Model because all other worksheets depend on them for data.

Once all the basic worksheets are open, the user may proceed to any of the tasks listed below, which are described in detail in the following sections:

- Entering Basic Data
- Generating the MDS Plan
- Generating the Training Schedule
- Generating the Hiring Plan.

1.5. Entering Basic Data

With the basic worksheets open, data may be entered by simply activating a worksheet and typing the new data into the appropriate cells. Do not enter data into any of the higher level worksheets; these worksheets obtain all their data, directly or indirectly, from the basic worksheets.

For information on the mechanics of editing worksheets, please refer to the Microsoft EXCEL User's Guide.

1.6. Generating the MDS Plan

With the basic worksheets open:

- select **Open** from the **File** menu
- select "MDS" from the list of files in the dialog box (you may have to navigate to the appropriate folder to find the worksheet)
- click on the **Open** button (or double click on the "MDS" title).

After the MDS worksheet worksheet has been opened, the user may wish to recalculate the worksheet to bring it up to date with any changes which have occurred to the data in the basic worksheets since the last time the MDS worksheet was saved.

If the calculation mode of the worksheet was set to automatic, the worksheet will automatically recalculate upon opening. If, on the other hand, the calculation mode of the worksheet was set to manual, the user will have to issue the **Calculate now ...** command from the **Options** menu in order to recalculate the worksheet.

Due to the large number of links in the worksheet, and the time delay involved in recalculation, it is recommended that the MDS worksheet be kept in the manual recalculation mode.

After work with the MDS worksheet has been completed, close the worksheet. This frees up memory so that other worksheets may be opened. The number of worksheets which may be open at any one time is limited only by the available memory (RAM) of the computer. Since the higher level worksheets are relatively large, it is a good practice to always close the worksheets after using them to avoid the "Out of memory" message.

1.7. Generating the Training Schedule

With the basic worksheets open:

- select **Open** from the **File** menu
- select "NTC" from the list of files in the dialog box (you may have to navigate to the appropriate folder to find the worksheet)
- click on the **Open** button (or double click on the "NTC" title).

After the NTC worksheet worksheet has been opened, the user may wish to recalculate the worksheet to bring it up to date with any changes which have occurred to the data in the basic worksheets since the last time the NTC worksheet was saved.

If the calculation mode of the worksheet was set to automatic, the worksheet will automatically recalculate upon opening. If, on the other hand, the calculation mode of the worksheet was set to manual, the user will have to issue the **Calculate now ...** command from the **Options** menu in order to recalculate the worksheet.

Due to the large number of links in the worksheet, and the time delay involved in recalculation, it is recommended that the NTC worksheet be kept in the manual recalculation mode.

After work with the NTC worksheet has been completed, close the worksheet. This frees up memory so that other worksheets may be opened. The number of worksheets which may be open at any one time is limited only by the available memory (RAM) of the computer. Since the higher level worksheets are relatively large, it is a good practice to always close the worksheets after using them to avoid the "Out of memory" message.

1.8. Generating the Hiring Plan

With the basic worksheets open, and the NTC worksheet open:

- select **Open** from the **File** menu
- select "HIRE" from the list of files in the dialog box (you may have to navigate to the appropriate folder to find the worksheet)
- click on the **Open** button (or double click on the "HIRE" title).

After the HIRE worksheet worksheet has been opened, the user may wish to recalculate the worksheet to bring it up to date with any changes which have occurred to the data in the basic worksheets since the last time the HIRE worksheet was saved.

If the calculation mode of the worksheet was set to automatic, the worksheet will automatically recalculate upon opening. If, on the other hand, the calculation mode of the worksheet was set to manual, the user will have to issue the **Calculate now ...** command from the **Options** menu in order to recalculate the worksheet.

Due to the time delay involved in recalculation, it is recommended that the HIRE worksheet be kept in the manual recalculation mode.

After work with the HIRE worksheet has been completed, close the worksheet. This frees up memory so that other worksheets may be opened. The number of worksheets which may be open at any one time is limited only by the available memory (RAM) of the computer. Since the higher level worksheets are relatively large, it is a good practice to always close the worksheets after using them to avoid the "Out of memory" message.

2. Technical Reference Manual

This part of the manual contain detailed information on the design features of the NGD Staff Planning Model. The information contained in this part of the manual would be of value to users wishing to enhance or modify the structure of the Staff Planning Model. Macro listings, source code listings, and command syntax descriptions are fully described in this manual. The reader is assumed to be familiar with the acronyms used in this manual (such as BA, NSG, MDS, NTC, etc.).

2.1. Design Considerations

Given a set of Staff Planning worksheets whose formats have stabilized, the first step in linking the worksheets was the naming of ranges in each worksheet. Once all the necessary range names were defined, the formulas for linking the worksheets were entered into the appropriate cells. The defined range names were used in the formulas, allowing columns and rows to be rearranged without disturbing the links, as long as the rearrangement did not break any of the defined ranges into fragments. The result was a network of worksheets which allows data to propagate, accurately and consistently, throughout the whole Staff Planning Model.

The definition of range names and the entering of link formulas were accomplished through the use of macro files. In order to facilitate convenient macro creation, all the basic worksheets for the major job families must have identical layouts, that is, all the columns and rows which contain data must be identical among all the worksheets for the major job families. For example, in year 1988 of the M&P worksheet, the Y-E 1988 totals for departments BA to NSG start at row 22 of column K (or column 13) and end at row 32 of column K. The corresponding totals for departments BA to NSG in all the other basic job family worksheets must also be in the identical range R22C13:R32C13.

In some cases, unused columns or rows may be present in some worksheets if the worksheets are to have identical layouts. For display and printout purposes, these columns or rows may be hidden from view. This preserves the identical layout between worksheets, yet display and print without unnecessary blank rows or columns. Hidden columns were used in worksheets CT, MM, and CHT.

With the basic worksheets having identical layouts, it was possible to write programs which would conveniently create the macro files for defining the range names and link formulas. These programs were written in Turbo Pascal for the Macintosh. Thus, the programs created standard text files of macro commands. These text files were directly pasted into EXCEL macro worksheets to create the macro files. Then the names of the various macros were defined in the macro worksheets. At this point, the macro files are complete, and the macros may be executed by simply selecting its name from the **Macro** menu.

This process of macro creation and execution has to be performed only once, and only when the layout or structure of the worksheets have changed so much that the links and range names have to be redefined.

Further information on the range names, the link formulas, the macro files, and the Turbo Pascal programs used to create the macro files may be found in the following appendices.

2.2. Range Names

The format of the macro command used to define names for ranges is:

=DEFINE.NAME("*name*","=*range*")

where *name* = the name being assigned to the range
range = [StartRow][StartCol]:[EndRow][EndCol]

e.g. =DEFINE.NAME("MP1.WNTC2","=R22C6:R26C6")

here *name* = MP1.WNTC2
range = R22C6:R26C6 and [StartRow] = R22
[StartCol] = C6
[EndRow] = R26
[EndCol] = C6

Reference: See **Define.Name** on page 154 of *Microsoft EXCEL:Arrays,Functions,Macros.*

2.2.1. M&P Worksheet Range Names

The M&P worksheet contains name definitions for ranges which are accessed externally by the MDS worksheet and the NTC worksheet. Thus, there are two sets of range names in the M&P worksheet, and there may be some overlap in the actual ranges in these definitions. For example, range name MP1.NGD0 is assigned to range R22C8:R29C8, and range name MP1.WNTC0 is assigned to range R22C8:R26C8. Therefore, care must be exercised so as not to create fragmented ranges if the worksheet layout is rearranged.

A specific naming convention was used to assign range names to ranges accessed by the MDS and NTC worksheets. The names have the same format as we go from one year to the next in the M&P worksheet. For any one particular year, the names that are used are:

For ranges accessed by the MDS worksheet	**For ranges accessed by the NTC Worksheet**
MP(year).NGD0	MP(year).WNTC0
MP(year).NGD1	MP(year).WNTC1
MP(year).NGD2	MP(year).WNTC2
MP(year).TTSD0	MP(year).ENTC0
MP(year).TTSD1	MP(year).ENTC1
MP(year).TTSD2	MP(year).ENTC2
SSIT(year).NGD	
SSIT(year).TTSD	

where (year) represents one particular year, and may have any value in the range from 1 to 13, inclusively. The upper limit of 13 was used because there were 13 years in the Manpower Forecast.

The actual ranges which were assigned to these range names are listed in the **Macros** appendix.

2.2.2. NOP Worksheet Range Names

The NOP worksheet contains name definitions for ranges which are accessed externally by the MDS worksheet and the NTC worksheet. Thus, there are two sets of range names in the NOP worksheet, and there may be some overlap in the actual ranges in these definitions. For example, range name NOP1.NGD0 is assigned to range R22C8:R29C8, and range name NOP1.WNTC0 is assigned to range R22C8:R26C8. Therefore, care must be exercised so as not to create fragmented ranges if the worksheet layout is rearranged.

A specific naming convention was used to assign range names to ranges accessed by the MDS and NTC worksheets. The names have the same format as we go from one year to the next in the NOP worksheet. For any one particular year, the names that are used are:

For ranges accessed by the MDS worksheet	For ranges accessed by the NTC Worksheet
NOP(year).NGD0	NOP(year).WNTC0
NOP(year).NGD1	NOP(year).WNTC1
NOP(year).NGD2	NOP(year).WNTC2
NOP(year).TTSD0	NOP(year).ENTC0
NOP(year).TTSD1	NOP(year).ENTC1
NOP(year).TTSD2	NOP(year).ENTC2
UFOIT(year).NGD	
UFOIT(year).TTSD	

where (year) represents one particular year, and may have any value in the range from 1 to 13, inclusively. The upper limit of 13 was used because there were 13 years in the Manpower Forecast.

The actual ranges which were assigned to these range names are listed in the **Macros** appendix.

2.2.3. CT Worksheet Range Names

The CT worksheet contains name definitions for ranges which are accessed externally by the MDS worksheet and the NTC worksheet. Thus, there are two sets of range names in the CT worksheet, and there may be some overlap in the actual ranges in these definitions. For example, range name CT1.NGD0 is assigned to range R22C8:R29C8, and range name CT1.WNTC0 is assigned to range R22C8:R26C8. Therefore, care must be exercised so as not to create fragmented ranges if the worksheet layout is rearranged.

A specific naming convention was used to assign range names to ranges accessed by the MDS and NTC worksheets. The names have the same format as we go from one year to the next in the CT worksheet. For any one particular year, the names that are used are:

For ranges accessed by the MDS worksheet	**For ranges accessed by the NTC Worksheet**
CT{year}.NGD0	CT{year}.WNTC0
CT{year}.NGD1	CT{year}.WNTC1
CT{year}.NGD2	CT{year}.WNTC2
CT{year}.TTSD0	CT{year}.ENTC0
CT{year}.TTSD1	CT{year}.ENTC1
CT{year}.TTSD2	CT{year}.ENTC2

where {year} represents one particular year, and may have any value in the range from 1 to 13, inclusively.

The actual ranges which were assigned to these range names are listed in the **Macros** appendix.

2.2.4. MM Worksheet Range Names

The MM worksheet contain name definitions for ranges which are accessed externally by the MDS worksheet and the NTC worksheet. Thus, there are two sets of range names in the MM worksheet, and there may be some overlap in the actual ranges in these definitions. For example, range name MM1.NGD0 is assigned to range R22C8:R29C8, and range name MM1.WNTC0 is assigned to range R22C8:R26C8. Therefore, care must be exercised so as not to create fragmented ranges if the worksheet layout is rearranged.

A specific naming convention was used to assign range names to ranges accessed by the MDS and NTC worksheets. The names have the same format as we go from one year to the next in the MM worksheet. For any one particular year, the names that are used are:

For ranges accessed by the MDS worksheet	**For ranges accessed by the NTC Worksheet**
MM(year).NGD0	MM(year).WNTC0
MM(year).NGD1	MM(year).WNTC1
MM(year).NGD2	MM(year).WNTC2
MM(year).TTSD0	MM(year).ENTC0
MM(year).TTSD1	MM(year).ENTC1
MM(year).TTSD2	MM(year).ENTC2

where (year) represents one particular year, and may have any value in the range from 1 to 13, inclusively. The upper limit of 13 was used because there were 13 years in the Manpower Forecast.

The actual ranges which were assigned to these range names are listed in the **Macros** appendix.

2.2.5. CHT Worksheet Range Names

The CHT worksheet contains name definitions for ranges which are accessed externally by the MDS worksheet and the NTC worksheet. Thus, there are two sets of range names in the CHT worksheet, and there may be some overlap in the actual ranges in these definitions. For example, range name CHT1.NGD0 is assigned to range R22C8:R29C8, and range name CHT1.WNTC0 is assigned to range R22C8:R26C8. Therefore, care must be exercised so as not to create fragmented ranges if the worksheet layout is rearranged.

A specific naming convention was used to assign range names to ranges accessed by the MDS and NTC worksheets. The names have the same format as we go from one year to the next in the CHT worksheet. For any one particular year, the names that are used are:

For ranges accessed by the MDS worksheet	For ranges accessed by the NTC Worksheet
CHT{year}.NGD0	CHT{year}.WNTC0
CHT{year}.NGD1	CHT{year}.WNTC1
CHT{year}.NGD2	CHT{year}.WNTC2
CHT{year}.TTSD0	CHT{year}.ENTC0
CHT{year}.TTSD1	CHT{year}.ENTC1
CHT{year}.TTSD2	CHT{year}.ENTC2

where {year} represents one particular year, and may have any value in the range from 1 to 13, inclusively. The upper limit of 13 was used because there were 13 years in the Manpower Forecast.

The actual ranges which were assigned to these range names are listed in the **Macros** appendix.

2.2.6. MDS Worksheet Range Names

The MDS worksheet contains name definitions for ranges which are used within the MDS worksheet. A specific naming convention was used to assign range names, and the names have the same format as we go from one year to the next in the MDS worksheet. For any one particular year, the names that are used are:

MDS.MP(year).E.NGD
MDS.MP(year).1.NGD
MDS.MP(year).2.NGD
MDS.SSIT(year).NGD
MDS.MP(year).E.TTSD
MDS.MP(year).1.TTSD
MDS.MP(year).2.TTSD
MDS.SSIT(year).TTSD
MDS.NOP(year).E.NGD
MDS.NOP(year).1.NGD
MDS.NOP(year).2.NGD
MDS.UFOIT(year).NGD
MDS.NOP(year).E.TTSD
MDS.NOP(year).1.TTSD
MDS.NOP(year).2.TTSD
MDS.UFOIT(year).TTSD
MDS.CT(year).E.NGD
MDS.CT(year).1.NGD
MDS.CT(year).2.NGD
MDS.CT(year).E.TTSD
MDS.CT(year).1.TTSD
MDS.CT(year).2.TTSD
MDS.MM(year).E.NGD
MDS.MM(year).1.NGD
MDS.MM(year).2.NGD
MDS.MM(year).E.TTSD
MDS.MM(year).1.TTSD
MDS.MM(year).2.TTSD
MDS.CHT(year).E.NGD
MDS.CHT(year).1.NGD
MDS.CHT(year).2.NGD
MDS.CHT(year).E.TTSD
MDS.CHT(year).1.TTSD
MDS.CHT(year).2.TTSD

where (year) represents one particular year, and may have any value in the range from 1 to 10, inclusively. The upper limit of 10 was used because there were 10 years in the Manpower Plan.

The actual ranges which were assigned to these range names are listed in the **Macros** appendix.

2.2.7. NTC Worksheet Range Names

The NTC worksheet contains name definitions for ranges which are used internally by the NTC worksheet, and externally by the HIRE worksheet. Thus, there are two sets of range names in the NTC worksheet, and care must be exercised so as not to create fragmented ranges if the worksheet layout is rearranged.

A specific naming convention was used to assign range names. The names have the same format as we go from one year to the next in the NTC worksheet. For any one particular year, the names that are used are:

For ranges accessed internally by the NTC worksheet

NTC.MP(year).0.WNTC
NTC.MP(year).1.WNTC
NTC.MP(year).2.WNTC
NTC.MP(year).0.ENTC
NTC.MP(year).1.ENTC
NTC.MP(year).2.ENTC
NTC.NOP(year).0.WNTC
NTC.NOP(year).1.WNTC
NTC.NOP(year).2.WNTC
NTC.NOP(year).0.ENTC
NTC.NOP(year).1.ENTC
NTC.NOP(year).2.ENTC
NTC.CT(year).0.WNTC
NTC.CT(year).1.WNTC
NTC.CT(year).2.WNTC
NTC.CT(year).0.ENTC
NTC.CT(year).1.ENTC
NTC.CT(year).2.ENTC
NTC.MM(year).0.WNTC
NTC.MM(year).1.WNTC
NTC.MM(year).2.WNTC
NTC.MM(year).0.ENTC
NTC.MM(year).1.ENTC
NTC.MM(year).2.ENTC
NTC.CHT(year).0.WNTC
NTC.CHT(year).1.WNTC
NTC.CHT(year).2.WNTC
NTC.CHT(year).0.ENTC
NTC.CHT(year).1.ENTC
NTC.CHT(year).2.ENTC

For ranges accessed externally by the HIRE Worksheet

NTC.MP(year).T.WNTC
NTC.MP(year).T.ENTC
NTC.NOP(year).T.WNTC
NTC.NOP(year).T.ENTC
NTC.CT(year).T.WNTC
NTC.CT(year).T.ENTC
NTC.MM(year).T.WNTC
NTC.MM(year).T.ENTC
NTC.CHT(year).T.WNTC
NTC.CHT(year).T.ENTC

where (year) represents one particular year, and may have any value in the range from 1 to 11, inclusively, for ranges accessed internally, and any value from 1 to 10, inclusively, for ranges accessed externally by the HIRE worksheet. The upper limit of 11 was used because the original LOTUS 1-2-3 spreadsheet modelled 11 years of the MDS Plan, while the upper limit of 10 was used because there were 10 years in the Manpower Plan. The actual ranges which were assigned to these range names are listed in the **Macros** appendix.

2.2.8. HIRE Worksheet Range Names

The HIRE worksheet contains name definitions for ranges which are used within the HIRE worksheet. A specific naming convention was used to assign range names, and the names have the same format as we go from one year to the next in the HIRE worksheet. For any one particular year, the names that are used are:

Hire.MP{year}
Hire.NOP{year}
Hire.CT{year}
Hire.MM{year}
Hire.CHT{year}

where {year} represents one particular year, and may have any value in the range from 1 to 10, inclusively. The upper limit of 10 was used because there were 10 years in the Manpower Plan.

The actual ranges which were assigned to these range names are listed in the **Macros** appendix.

2.2.9. Changing Range Names

Should the need arise for the user to change the range names in the Staff Planning Model, the following actions must be performed :

1. Execute the programs which generate text files for the deletion of existing range names
2. Copy the text files into the macro worksheet which will be used to delete the existing range names
3. Execute the macros to delete the existing range names
4. Modify the programs which generate text files for the definition of the new range names
5. Execute the programs which generate text files for the definition of the new range names
6. Copy the text files into the macro worksheets which will be used to define the new range names
7. Execute the macros to define the new range names
8. Modify the programs which generate text files for the deletion of the new range names
9. Modify the programs which generate text files for the creation of new link formulas
10. Execute the programs which generate text files for the creation of new link formulas
11. Copy the text files into the macro worksheets which will be used to create new link formulas
12. Execute the macros to create new link formulas.

These steps are described in detail in the following sections. Depending on the nature of the changes, not all of these steps need to be performed.

Step 1: Execute the programs which generate text files for the deletion of existing range names

Before the new range names are defined, the old range names should be deleted from the worksheets. Turbo Pascal programs were written to create text files containing the macro commands to delete the existing range names from each worksheet. The programs used for the deletion of ranges were :

Program Name	Text File Name
DelCHTRangesMDSProgram	DelCHTRangesMDS
DelCTRangesMDSProgram	DelCTRangesMDS
DelMMRangesMDSProgram	DelMMRangesMDS
DelMPRangesMDSProgram	DelMPRangesMDS
DelNOPRangesMDSProgram	DelNOPRangesMDS
DelCHTRangesNTCProgram	DelCHTRangesNTC
DelCTRangesNTCProgram	DelCTRangesNTC
DelMMRangesNTCProgram	DelMMRangesNTC
DelMPRangesNTCProgram	DelMPRangesNTC
DelNOPRangesNTCProgram	DelNOPRangesNTC
DelMDSRangesProgram	DelMDSRanges
DelNTCRangesProgram	DelNTCRanges
DelHireNTCRangesProgram	DelHireNTCRanges
DelHireRangesProgram	DelHireRanges

To execute any of these programs:

- Double-click on the icon which represents the particular program

  Assuming that the Turbo Pascal System resides on the hard disk, the program file will open and display the source code listing for the program.

- Select **Run** from the **Compile** menu

  The program will begin execution, and the screen display will be erased. When the source code listing returns, the program has completed execution.

- Close the program by clicking in the Close box of the program window.

The text file for the above programs will be created in the "**Working Plan**" folder of the "**Staff Planning**" folder.

Step 2: Copy the text files into the macro worksheet which will be used to delete the existing range names

In Microsoft EXCEL, open a new macro worksheet, and name it "Delete Macros". If a macro worksheet by that name already exists, open it and delete its contents. In the top row of the worksheet, enter the following titles into consecutive cells, beginning from the left:

Cell Address	Title	Associated Worksheet
R1C1	DelCHTRanges	CHT
R1C2	DelCTRanges	CT
R1C3	DelMMRanges	MM
R1C4	DelMPRanges	MP
R1C5	DelNOPRanges	NOP
R1C6	DelMDSRanges	MDS
R1C7	DelNTCRanges	NTC
R1C8	DelHireRanges	HIRE

These titles will be used to name the macros in this worksheet. Each column will contain macro commands to delete range names from the associated worksheet.

The table below shows the text files used to create the deletion macros :

Macro Name	Text File Name
DelCHTRanges*	DelCHTRangesMDS, DelCHTRangesNTC
DelCTRanges*	DelCTRangesMDS, DelCTRangesNTC
DelMMRanges*	DelMMRangesMDS, DelMMRangesNTC
DelMPRanges*	DelMPRangesMDS, DelMPRangesNTC
DelNOPRanges*	DelNOPRangesMDS, DelNOPRangesNTC
DelMDSRanges	DelMDSRanges
DelNTCRanges*	DelNTCRanges, DelHireNTCRanges
DelHireRanges	DelHireRanges

* The two text files must be concatenated into one continuous macro column with no intervening blank cells. Also, the "=RETURN()" macro command must be removed from the end of the first text file before concatenating the second text file; this is easier done in the macro worksheet rather than in the original text file.

To copy the contents of a text file into the "Delete Macros" worksheet :

- Click on the first blank cell under one macro name in the "Delete Macros" worksheet
- Select **Open** from the **File** menu
- Open the associated text file for the macro being created

The text file will be opened as an EXCEL worksheet, with each line of the text file being placed into one cell of the worksheet.

- Click on the first cell of the opened text file worksheet
- Scroll to the bottom of the text file and, while holding down the **shift** key, click on the last cell containing text

  This shift-click process will select the entire column of text. If you want to exclude the last line of the text, which contains the statement "=RETURN()", then shift-click on the second to last line of the text file.

- Select **Copy** from the **Edit** menu

  This copies the selected cells into the Macintosh clipboard

- From the **Window** menu, select the "Delete Macros" worksheet
- Select **Paste** from the **Edit** menu

  The selected cells from the text file worksheet will be copied in the "Delete Macros" worksheet at the position of the active cell.

- From the Window menu, select the previously opened text file worksheet
- Close the text file worksheet

  A dialog box may appear stating that a large clipboard will be saved; click on the **OK** button to save the clipboard and close the worksheet.

When concatenating text files into one continuous macro, remember to remove any intervening blank cells; and the macro command "=RETURN()" must be the last line of the macro. If the "=RETURN()" command appears within the macro, the macro will stop execution at that point.

After all the macros have been created,

- click on a cell which contain a macro name
- select **Define Name ...** from the **Formula** menu
- type in the name of the macro, as it appears in the worksheet cell, into the **Name** box
- click on the **Command** button in the **Macro** box
- click on the **OK** button.

This names the macro and allows the user to later select it from a list of macros for execution. Repeat this for all the deletion macros.

Step 3. Execute the macros to delete the existing range names

To delete range names from the worksheets, the "Delete Macros" worksheet must be open, together with all the worksheets whose range names will be deleted. The range names will be removed from each worksheet in turn.

To delete the range names from the CHT worksheet,

- make the CHT worksheet the active window by clicking in its window, or by selecting its name from the **Window** menu
- select **Run** from the **Macro** menu
- select the macro titled "DelCHTRanges" from the list of available macros
- after the macro has finished processing, save the worksheet.

Repeat these steps for each of the worksheets, using the appropriately titled macro for each worksheet. The following table lists the worksheets and their associated deletion macros :

Worksheet	Deletion Macro
CHT	DelCHTRanges
CT	DelCTRanges
MM	DelMMRanges
MP	DelMPRanges
NOP	DelNOPRanges
MDS	DelMDSRanges
NTC	DelNTCRanges
HIRE	DelHireRanges

Step 4. Modify the programs which generate text files for the definition of the new range names

The Turbo Pascal programs which generated the original text files for creating the existing range names must be modified to generate text files for the new range names. The programs used for the definition of range names were :

Program Name	Text File Name
CHTRangesMDSProgram	CHTRangesMDS
CTRangesMDSProgram	CTRangesMDS
MMRangesMDSProgram	MMRangesMDS
MPRangesMDSProgram	MPRangesMDS
NOPRangesMDSProgram	NOPRangesMDS
CHTRangesNTCProgram	CHTRangesNTC
CTRangesNTCProgram	CTRangesNTC
MMRangesNTCProgram	MMRangesNTC
MPRangesNTCProgram	MPRangesNTC
NOPRangesNTCProgram	NOPRangesNTC
MDSRangesProgram	MDSRanges
NTCRangesProgram	NTCRanges
HireNTCRangesProgram	HireNTCRanges
HireRangesProgram	HireRanges

To modify any of these programs:

- Double-click on the icon which represents the particular program

  Assuming that the Turbo Pascal System resides on the hard disk, the program file will open and display the source code listing for the program.

- Edit the source code

- After all editing is done and the changes verified, save and close the program by clicking in the Close box of the program window.

Step 5. Execute the programs which generate text files for the definition of the new range names

The programs which generate text files for the definition of the new range names were :

Program Name	Text File Name
CHTRangesMDSProgram	CHTRangesMDS
CTRangesMDSProgram	CTRangesMDS
MMRangesMDSProgram	MMRangesMDS
MPRangesMDSProgram	MPRangesMDS
NOPRangesMDSProgram	NOPRangesMDS
CHTRangesNTCProgram	CHTRangesNTC
CTRangesNTCProgram	CTRangesNTC
MMRangesNTCProgram	MMRangesNTC
MPRangesNTCProgram	MPRangesNTC
NOPRangesNTCProgram	NOPRangesNTC
MDSRangesProgram	MDSRanges
NTCRangesProgram	NTCRanges
HireNTCRangesProgram	HireNTCRanges
HireRangesProgram	HireRanges

To execute any of these programs:

- Double-click on the icon which represents the particular program

  Assuming that the Turbo Pascal System resides on the hard disk, the program file will open and display the source code listing for the program.

- Select **Run** from the **Compile** menu

  The program will begin execution, and the screen display will be erased. When the source code listing returns, the program has completed execution.

- Close the program by clicking in the Close box of the program window.

The text file for the above programs will be created in the "**Working Plan**" folder of the "**Staff Planning**" folder.

Step 6. Copy the text files into the macro worksheets which will be used to define the new range names

The text files are copied into macro worksheets to convert the files into EXCEL macros. The table below shows the relationship between the macro worksheets, the text files, and their associated macro names :

Macro Worksheet	Text File Name	Macro Name
Basic Macros	CHTRangesMDS	CHTMDSRanges
	CTRangesMDS	CTMDSRanges
	MMRangesMDS	MMMDSRanges
	MPRangesMDS	MPMDSRanges
	NOPRangesMDS	NOPMDSRanges
	CHTRangesNTC	CHTNTCRanges
	CTRangesNTC	CTNTCRanges
	MMRangesNTC	MMNTCRanges
	MPRangesNTC	MPNTCRanges
	NOPRangesNTC	NOPNTCRanges
MDS Macros	MDSRanges	DefineMDSRanges
NTC Macros	NTCRanges	DefineNTCRanges
	HireNTCRanges	DefineHireNTCRanges
Hire Macros	HireRanges	DefineHireRanges

All the macros in the macro worksheets have the same structure, that is, the first line of a macro contains the name of the macro, then the body of the macro appears in the cells below the macro name, and the last line of the macro is the "**=RETURN()**" macro command. In the "Basic Macros" worksheet, the macros which are associated with one major job family appear in a single column and are stacked one above the other; when replacing old macro commands with new ones, make sure there is sufficient space in the worksheet to accept the new macro without overwriting the macro below it in the same column.

To copy the contents of a text file into a macro worksheet :

- Click on the first cell under one macro name in the macro worksheet.

- Select **Open** from the **File** menu.

- Open the associated text file for the macro being created.

  The text file will be opened as an EXCEL worksheet, with each line of the text file being placed into one cell of the worksheet.

- Click on the first cell of the opened text file worksheet.

- Scroll to the bottom of the text file and, while holding down the **shift** key, click on the last cell containing text.

  This shift-click process will select the entire column of text.

- Select **Copy** from the **Edit** menu.

  This copies the selected cells into the Macintosh clipboard.

- From the **Window** menu, select the macro worksheet.

- Select **Paste** from the **Edit** menu.

  The selected cells from the text file worksheet will be copied in the macro worksheet at the position of the active cell. If the new macro had the same number of lines as the old macro, then the new macro will fit in the same space as the old macro, and completely overwrite the old macro.

  If the new macro had less lines than the old macro, then the extra remaining lines of the old macro must be deleted after the paste operation.

  If the new macro had more lines than the old macro, then any macro(s) which appear below the old macro in the same column must be moved downwards to make room for the new macro before the paste operation can be performed.

- From the Window menu, select the previously opened text file worksheet.

- Close the text file worksheet.

A dialog box may appear stating that a large clipboard will be saved; click on the **OK** button to save the clipboard and close the worksheet.

After all the macros have been created, the names of the macros must be defined, if they do not already exist. If the macro name has already been defined, but the location of the macro has been changed, then the new location must be specified. The following steps should be followed to define the new macro name.

- Click on a cell which contain a macro name for one of the newly created macros.

- Select **Define Name ...** from the **Formula** menu.

- Type in the name of the macro, as it appears in the worksheet cell, into the **Name** box.

If the macro name has already been defined but the location of the macro has changed, then select the macro name from the list of defined macros. Enter the new location of the macro in the **Refers To** box.

- click on the **Command** button in the **Macro** box
- click on the **OK** button.

This names the macro and allows the user to later select it from a list of macros for execution. Repeat this for all the newly created macros.

Step 7. Execute the macros to define the new range names

To define the new range names, a macro worksheet, together with its associated worksheets whose range names will be redefined, must all be open. The range names will be defined in each worksheet in turn.

For example, to define the new range names for the CHT worksheet,

- make the CHT worksheet the active window by clicking in its window, or by selecting its name from the **Window** menu
- select **Run** from the **Macro** menu
- select the macro titled "DelCHTRanges" from the list of available macros
- after the macro has finished processing, save the worksheet.

Repeat these steps for each of the worksheets, using the appropriately titled macro for each worksheet. The following table lists the worksheets and their associated deletion macros :

Worksheet	Deletion Macro
CHT	DelCHTRanges
CT	DelCTRanges
MM	DelMMRanges
MP	DelMPRanges
NOP	DelNOPRanges
MDS	DelMDSRanges
NTC	DelNTCRanges
HIRE	DelHireRanges

Step 8. Modify the programs which generate text files for the deletion of the new range names

To prepare for the next time when range names need to be redefined, the Turbo Pascal programs which generated text files for the deletion of range names must be modified to reflect the new range names. The programs to be modified are :

Program Name

DelCHTRangesMDSProgram
DelCTRangesMDSProgram
DelMMRangesMDSProgram
DelMPRangesMDSProgram
DelNOPRangesMDSProgram
DelCHTRangesNTCProgram
DelCTRangesNTCProgram
DelMMRangesNTCProgram
DelMPRangesNTCProgram
DelNOPRangesNTCProgram
DelMDSRangesProgram
DelNTCRangesProgram
DelHireNTCRangesProgram
DelHireRangesProgram

To modify any of these programs:

- Double-click on the icon which represents the particular program

  Assuming that the Turbo Pascal System resides on the hard disk, the program file will open and display the source code listing for the program.

- Edit the source code

- After all editing is done and the changes verified, save and close the program by clicking in the Close box of the program window.

These programs do not get executed until the next time that range names need to be redefined. However, test runs may be performed to verify the correctness of the modifications. The resulting text files should be deleted after testing to help conserve disk space.

Step 9. Modify the programs which generate text files for the creation of new link formulas

The Turbo Pascal programs which generated the original text files for the creation of the existing link formulas have to be modified to refer to the new range names. If the range addresses were changed but the range names themselves were unchanged, then the existing link formulas would still work, and steps 9 to 12 do not have to be performed. The programs used for the creation of link formulas were :

Program Name	Text File Name
MDSLinksProgram	MDS Links
NTCLinksProgram	NTCLinks
HireLinksProgram	HireLinks

To modify any of these programs:

- Double-click on the icon which represents the particular program

  Assuming that the Turbo Pascal System resides on the hard disk, the program file will open and display the source code listing for the program.

- Edit the source code

- After all editing is done and the changes verified, save and close the program by clicking in the Close box of the program window.

Step 10. Execute the programs which generate text files for the creation of new link formulas

The Turbo Pascal programs which generate text files for the creation of new link formulas were :

Program Name	Text File Name
MDSLinksProgram	MDS Links
NTCLinksProgram	NTCLinks
HireLinksProgram	HireLinks

To execute any of these programs:

- Double-click on the icon which represents the particular program

  Assuming that the Turbo Pascal System resides on the hard disk, the program file will open and display the source code listing for the program.

- Select **Run** from the **Compile** menu

  The program will begin execution, and the screen display will be erased. When the source code listing returns, the program has completed execution.

- Close the program by clicking in the Close box of the program window.

The text file for the above programs will be created in the "**Working Plan**" folder of the "**Staff Planning**" folder.

Step 11. Copy the text files into the macro worksheets which will be used to create new link formulas

The text files are copied into macro worksheets to convert the files into EXCEL macros. The table below shows the relationship between the macro worksheets, the text files, and their associated macro names :

Macro Worksheet	Text File Name	Macro Name
MDS Macros	MDSLinks	MakeMDSLinks
NTC Macros	NTCLinks	MakeNTCLinks
Hire Macros	HireLinks	MakeHireLinks

All the macros in the macro worksheets have the same structure, that is, the first line of a macro contains the name of the macro, then the body of the macro appears in the cells below the macro name, and the last line of the macro is the "**=RETURN()**" macro command. In the macro worksheets, the macros may be stacked one above the other. Hence, when replacing old macro commands with new ones, make sure there is sufficient space in the worksheet to accept the new macro without overwriting the macro below it in the same column.

To copy the contents of a text file into a macro worksheet :

- Click on the first cell under one macro name in the macro worksheet.

- Select **Open** from the **File** menu.

- Open the associated text file for the macro being created.

  The text file will be opened as an EXCEL worksheet, with each line of the text file being placed into one cell of the worksheet.

- Click on the first cell of the opened text file worksheet.

- Scroll to the bottom of the text file and, while holding down the **shift** key, click on the last cell containing text.

  This shift-click process will select the entire column of text.

- Select **Copy** from the **Edit** menu.

  This copies the selected cells into the Macintosh clipboard.

- From the **Window** menu, select the macro worksheet.

- Select **Paste** from the **Edit** menu.

The selected cells from the text file worksheet will be copied in the macro worksheet at the position of the active cell. If the new macro had the same number of lines as the old macro, then the new macro will fit in the same space as the old macro, and completely overwrite the old macro.

If the new macro had less lines than the old macro, then the extra remaining lines of the old macro must be deleted after the paste operation.

If the new macro had more lines than the old macro, then any macro(s) which appear below the old macro in the same column must be moved downwards to make room for the new macro before the paste operation can be performed.

- From the Window menu, select the previously opened text file worksheet.
- Close the text file worksheet.

A dialog box may appear stating that a large clipboard will be saved; click on the **OK** button to save the clipboard and close the worksheet.

After all the macros have been created, the names of the macros must be defined, if they do not already exist. If the macro name has already been defined, but the location of the macro has been changed, then the new location must be specified. The following steps should be followed to define the new macro name.

- Click on a cell which contain a macro name for one of the newly created macros.
- Select **Define Name ...** from the **Formula** menu.
- Type in the name of the macro, as it appears in the worksheet cell, into the **Name** box.

  If the macro name has already been defined but the location of the macro has changed, then select the macro name from the list of defined macros. Enter the new location of the macro in the **Refers To** box.
- Click on the **Command** button in the **Macro** box.
- Click on the **OK** button.

This names the macro and allows the user to later select it from a list of macros for execution. Repeat this for all the newly created macros.

Step 12. Execute the macros to create new link formulas.

To enter the new link formulas into a worksheet, the macro worksheet which contains the appropriate link macro, together with the associated worksheet which will contain the new link formulas, must all be open. The link formulas will be entered into each worksheet in turn.

For example, to enter the new link formulas for the MDS worksheet,

- make the MDS worksheet the active window by clicking in its window, or by selecting its name from the **Window** menu
- select **Run** from the **Macro** menu
- select the macro titled "MakeMDSLinks" from the list of available macros
- after the macro has finished processing, save the worksheet.

Repeat these steps for each of the worksheets, using the appropriately titled macro for each worksheet. The following table lists the worksheets and their associated link macro :

Worksheet	**Link Macro**
MDS	MakeMDSLinks
NTC	MakeNTCLinks
HIRE	MakeHireLinks

2.3. Links

To create a link between one worksheet and another, a formula in a cell in the first worksheet must make reference to a cell or range in the second worksheet. This is referred to as an **external reference**.

In the Staff Planning Model, the macro commands used to establish a link consists of :

```
=SELECT(!range name)
=FORMULA.ARRAY("=external range")
```

The first macro command selects a range of cells in the currently activated worksheet via a range name. This range will be linked to values in an external worksheet. The second macro command assigns the link formula to the selected range of cells, thus linking the selected range with a range of cells in an external worksheet. For example, if the NTC worksheet is currently activated and we execute the following macro commands :

```
=SELECT(!NTC.MM6.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM6.ENTC0)")
```

The first command will select the range in the NTC worksheet identified by the name NTC.MM6.0.ENTC (i.e. R80C75:R80C80), and then place an array formula into this range linking it to the range identified by the name MM6.ENTC0 in the MM worksheet. Thus linking the NTC worksheet to the MM worksheet.

The TRANSPOSE function used in the macro command translates rows into columns, and columns into rows.

2.4. Macros

This section contains the listings of the macros found in the following macro worksheets :

- Basic Macros
- MDS Macros
- NTC Macros
- HIRE Macros

Due to the size and repetitiveness of the macro commands in each macro, Turbo Pascal programs were written to create the actual macro commands. The programs, in fact, created text files which contain the macro commands. These text files were then copied into an EXCEL worksheet which was opened as a macro sheet. This converted the text files into EXCEL macros. After the text files were copied into the macro worksheet, a name was assigned to each macro in the worksheet. A macro could now be executed by simply selecting the **Run** menu item from the **Macro** menu, and choosing the appropriate name from the list of macros.

Another macro worksheet, called "**Delete Macros**", forms part of the Staff Planning Model, but is only created when there is a need to restructure the worksheets or rename the ranges in the worksheets. Details concerning the creation of this macro worksheet and its contents may be found in Appendix B9.

2.4.1. Basic Macros

The Basic Macros worksheet contains macros pertaining to the definition of range names in the worksheets for the major job families. The macros define range names which will be referenced externally by the MDS worksheet and the NTC worksheet. In addition, there is one macro which will open all the basic worksheets for the Staff Planning Model.

OpenBasicFiles	This macro is executed from the "Basic Macros" worksheet. It opens all the worksheets for the major job families (the M&P, NOP, CT, MM, and CHT worksheets).
MPMDSRanges	This macro is executed from the M&P worksheet; that is, the M&P worksheet is the active worksheet. It defines the range names accessed externally by the MDS worksheet.
NOPMDSRanges	This macro is executed from the NOP worksheet; that is, the NOP worksheet is the active worksheet. It defines the range names accessed externally by the MDS worksheet.
CTMDSRanges	This macro is executed from the CT worksheet; that is, the CT worksheet is the active worksheet. It defines the range names accessed externally by the MDS worksheet.
MMMDSRanges	This macro is executed from the MM worksheet; that is, the MM worksheet is the active worksheet. It defines the range names accessed externally by the MDS worksheet.
CHTMDSRanges	This macro is executed from the CHT worksheet; that is, the CHT worksheet is the active worksheet. It defines the range names accessed externally by the MDS worksheet.
MPNTCRanges	This macro is executed from the M&P worksheet; that is, the M&P worksheet is the active worksheet. It defines the range names accessed externally by the NTC worksheet.
NOPNTCRanges	This macro is executed from the NOP worksheet; that is, the NOP worksheet is the active worksheet. It defines the range names accessed externally by the NTC worksheet.
CTNTCRanges	This macro is executed from the CT worksheet; that is, the CT worksheet is the active worksheet. It defines the range names accessed externally by the NTC worksheet.
MMNTCRanges	This macro is executed from the MM worksheet; that is, the MM worksheet is the active worksheet. It defines the range names accessed externally by the NTC worksheet.
CHTNTCRanges	This macro is executed from the CHT worksheet; that is, the CHT worksheet is the active worksheet. It defines the range names accessed externally by the NTC worksheet.

OpenBasicFiles

```
=OPEN("CHT")
=OPEN("CT")
=OPEN("MM")
=OPEN("M&P")
=OPEN("NOP")
=RETURN()
```

```
MPMDSRanges
=DEFINE.NAME("MP1.NGD0","=R22C8:R29C8")
=DEFINE.NAME("MP1.NGD1","=R22C7:R29C7")
=DEFINE.NAME("MP1.NGD2","=R22C6:R29C6")
=DEFINE.NAME("MP1.TTSD0","=R30C8:R32C8")
=DEFINE.NAME("MP1.TTSD1","=R30C7:R32C7")
=DEFINE.NAME("MP1.TTSD2","=R30C6:R32C6")
=DEFINE.NAME("SSIT1.NGD","=R22C13:R29C13")
=DEFINE.NAME("SSIT1.TTSD","=R30C13:R32C13")
=DEFINE.NAME("MP2.NGD0","=R41C8:R48C8")
=DEFINE.NAME("MP2.NGD1","=R41C7:R48C7")
=DEFINE.NAME("MP2.NGD2","=R41C6:R48C6")
=DEFINE.NAME("MP2.TTSD0","=R49C8:R51C8")
=DEFINE.NAME("MP2.TTSD1","=R49C7:R51C7")
=DEFINE.NAME("MP2.TTSD2","=R49C6:R51C6")
=DEFINE.NAME("SSIT2.NGD","=R41C13:R48C13")
=DEFINE.NAME("SSIT2.TTSD","=R49C13:R51C13")
=DEFINE.NAME("MP3.NGD0","=R60C8:R67C8")
=DEFINE.NAME("MP3.NGD1","=R60C7:R67C7")
=DEFINE.NAME("MP3.NGD2","=R60C6:R67C6")
=DEFINE.NAME("MP3.TTSD0","=R68C8:R70C8")
=DEFINE.NAME("MP3.TTSD1","=R68C7:R70C7")
=DEFINE.NAME("MP3.TTSD2","=R68C6:R70C6")
=DEFINE.NAME("SSIT3.NGD","=R60C13:R67C13")
=DEFINE.NAME("SSIT3.TTSD","=R68C13:R70C13")
=DEFINE.NAME("MP4.NGD0","=R79C8:R86C8")
=DEFINE.NAME("MP4.NGD1","=R79C7:R86C7")
=DEFINE.NAME("MP4.NGD2","=R79C6:R86C6")
=DEFINE.NAME("MP4.TTSD0","=R87C8:R89C8")
=DEFINE.NAME("MP4.TTSD1","=R87C7:R89C7")
=DEFINE.NAME("MP4.TTSD2","=R87C6:R89C6")
=DEFINE.NAME("SSIT4.NGD","=R79C13:R86C13")
=DEFINE.NAME("SSIT4.TTSD","=R87C13:R89C13")
=DEFINE.NAME("MP5.NGD0","=R98C8:R105C8")
=DEFINE.NAME("MP5.NGD1","=R98C7:R105C7")
=DEFINE.NAME("MP5.NGD2","=R98C6:R105C6")
=DEFINE.NAME("MP5.TTSD0","=R106C8:R108C8")
=DEFINE.NAME("MP5.TTSD1","=R106C7:R108C7")
=DEFINE.NAME("MP5.TTSD2","=R106C6:R108C6")
=DEFINE.NAME("SSIT5.NGD","=R98C13:R105C13")
=DEFINE.NAME("SSIT5.TTSD","=R106C13:R108C13")
=DEFINE.NAME("MP6.NGD0","=R117C8:R124C8")
=DEFINE.NAME("MP6.NGD1","=R117C7:R124C7")
=DEFINE.NAME("MP6.NGD2","=R117C6:R124C6")
=DEFINE.NAME("MP6.TTSD0","=R125C8:R127C8")
=DEFINE.NAME("MP6.TTSD1","=R125C7:R127C7")
=DEFINE.NAME("MP6.TTSD2","=R125C6:R127C6")
=DEFINE.NAME("SSIT6.NGD","=R117C13:R124C13")
=DEFINE.NAME("SSIT6.TTSD","=R125C13:R127C13")
=DEFINE.NAME("MP7.NGD0","=R136C8:R143C8")
=DEFINE.NAME("MP7.NGD1","=R136C7:R143C7")
=DEFINE.NAME("MP7.NGD2","=R136C6:R143C6")
=DEFINE.NAME("MP7.TTSD0","=R144C8:R146C8")
=DEFINE.NAME("MP7.TTSD1","=R144C7:R146C7")
```

```
=DEFINE.NAME("MP7.TTSD2","=R144C6:R146C6")
=DEFINE.NAME("SSIT7.NGD","=R136C13:R143C13")
=DEFINE.NAME("SSIT7.TTSD","=R144C13:R146C13")
=DEFINE.NAME("MP8.NGD0","=R155C8:R162C8")
=DEFINE.NAME("MP8.NGD1","=R155C7:R162C7")
=DEFINE.NAME("MP8.NGD2","=R155C6:R162C6")
=DEFINE.NAME("MP8.TTSD0","=R163C8:R165C8")
=DEFINE.NAME("MP8.TTSD1","=R163C7:R165C7")
=DEFINE.NAME("MP8.TTSD2","=R163C6:R165C6")
=DEFINE.NAME("SSIT8.NGD","=R155C13:R162C13")
=DEFINE.NAME("SSIT8.TTSD","=R163C13:R165C13")
=DEFINE.NAME("MP9.NGD0","=R174C8:R181C8")
=DEFINE.NAME("MP9.NGD1","=R174C7:R181C7")
=DEFINE.NAME("MP9.NGD2","=R174C6:R181C6")
=DEFINE.NAME("MP9.TTSD0","=R182C8:R184C8")
=DEFINE.NAME("MP9.TTSD1","=R182C7:R184C7")
=DEFINE.NAME("MP9.TTSD2","=R182C6:R184C6")
=DEFINE.NAME("SSIT9.NGD","=R174C13:R181C13")
=DEFINE.NAME("SSIT9.TTSD","=R182C13:R184C13")
=DEFINE.NAME("MP10.NGD0","=R193C8:R200C8")
=DEFINE.NAME("MP10.NGD1","=R193C7:R200C7")
=DEFINE.NAME("MP10.NGD2","=R193C6:R200C6")
=DEFINE.NAME("MP10.TTSD0","=R201C8:R203C8")
=DEFINE.NAME("MP10.TTSD1","=R201C7:R203C7")
=DEFINE.NAME("MP10.TTSD2","=R201C6:R203C6")
=DEFINE.NAME("SSIT10.NGD","=R193C13:R200C13")
=DEFINE.NAME("SSIT10.TTSD","=R201C13:R203C13")
=DEFINE.NAME("MP11.NGD0","=R212C8:R219C8")
=DEFINE.NAME("MP11.NGD1","=R212C7:R219C7")
=DEFINE.NAME("MP11.NGD2","=R212C6:R219C6")
=DEFINE.NAME("MP11.TTSD0","=R220C8:R222C8")
=DEFINE.NAME("MP11.TTSD1","=R220C7:R222C7")
=DEFINE.NAME("MP11.TTSD2","=R220C6:R222C6")
=DEFINE.NAME("SSIT11.NGD","=R212C13:R219C13")
=DEFINE.NAME("SSIT11.TTSD","=R220C13:R222C13")
=DEFINE.NAME("MP12.NGD0","=R231C8:R238C8")
=DEFINE.NAME("MP12.NGD1","=R231C7:R238C7")
=DEFINE.NAME("MP12.NGD2","=R231C6:R238C6")
=DEFINE.NAME("MP12.TTSD0","=R239C8:R241C8")
=DEFINE.NAME("MP12.TTSD1","=R239C7:R241C7")
=DEFINE.NAME("MP12.TTSD2","=R239C6:R241C6")
=DEFINE.NAME("SSIT12.NGD","=R231C13:R238C13")
=DEFINE.NAME("SSIT12.TTSD","=R239C13:R241C13")
=DEFINE.NAME("MP13.NGD0","=R250C8:R257C8")
=DEFINE.NAME("MP13.NGD1","=R250C7:R257C7")
=DEFINE.NAME("MP13.NGD2","=R250C6:R257C6")
=DEFINE.NAME("MP13.TTSD0","=R258C8:R260C8")
=DEFINE.NAME("MP13.TTSD1","=R258C7:R260C7")
=DEFINE.NAME("MP13.TTSD2","=R258C6:R260C6")
=DEFINE.NAME("SSIT13.NGD","=R250C13:R257C13")
=DEFINE.NAME("SSIT13.TTSD","=R258C13:R260C13")
=RETURN()
```

NOPMDSRanges

```
=DEFINE.NAME("NOP1.NGD0","=R22C8:R29C8")
=DEFINE.NAME("NOP1.NGD1","=R22C7:R29C7")
=DEFINE.NAME("NOP1.NGD2","=R22C6:R29C6")
=DEFINE.NAME("NOP1.TTSD0","=R30C8:R32C8")
=DEFINE.NAME("NOP1.TTSD1","=R30C7:R32C7")
=DEFINE.NAME("NOP1.TTSD2","=R30C6:R32C6")
=DEFINE.NAME("UFOIT1.NGD","=R22C13:R29C13")
=DEFINE.NAME("UFOIT1.TTSD","=R30C13:R32C13")
=DEFINE.NAME("NOP2.NGD0","=R41C8:R48C8")
=DEFINE.NAME("NOP2.NGD1","=R41C7:R48C7")
=DEFINE.NAME("NOP2.NGD2","=R41C6:R48C6")
=DEFINE.NAME("NOP2.TTSD0","=R49C8:R51C8")
=DEFINE.NAME("NOP2.TTSD1","=R49C7:R51C7")
=DEFINE.NAME("NOP2.TTSD2","=R49C6:R51C6")
=DEFINE.NAME("UFOIT2.NGD","=R41C13:R48C13")
=DEFINE.NAME("UFOIT2.TTSD","=R49C13:R51C13")
=DEFINE.NAME("NOP3.NGD0","=R60C8:R67C8")
=DEFINE.NAME("NOP3.NGD1","=R60C7:R67C7")
=DEFINE.NAME("NOP3.NGD2","=R60C6:R67C6")
=DEFINE.NAME("NOP3.TTSD0","=R68C8:R70C8")
=DEFINE.NAME("NOP3.TTSD1","=R68C7:R70C7")
=DEFINE.NAME("NOP3.TTSD2","=R68C6:R70C6")
=DEFINE.NAME("UFOIT3.NGD","=R60C13:R67C13")
=DEFINE.NAME("UFOIT3.TTSD","=R68C13:R70C13")
=DEFINE.NAME("NOP4.NGD0","=R79C8:R86C8")
=DEFINE.NAME("NOP4.NGD1","=R79C7:R86C7")
=DEFINE.NAME("NOP4.NGD2","=R79C6:R86C6")
=DEFINE.NAME("NOP4.TTSD0","=R87C8:R89C8")
=DEFINE.NAME("NOP4.TTSD1","=R87C7:R89C7")
=DEFINE.NAME("NOP4.TTSD2","=R87C6:R89C6")
=DEFINE.NAME("UFOIT4.NGD","=R79C13:R86C13")
=DEFINE.NAME("UFOIT4.TTSD","=R87C13:R89C13")
=DEFINE.NAME("NOP5.NGD0","=R98C8:R105C8")
=DEFINE.NAME("NOP5.NGD1","=R98C7:R105C7")
=DEFINE.NAME("NOP5.NGD2","=R98C6:R105C6")
=DEFINE.NAME("NOP5.TTSD0","=R106C8:R108C8")
=DEFINE.NAME("NOP5.TTSD1","=R106C7:R108C7")
=DEFINE.NAME("NOP5.TTSD2","=R106C6:R108C6")
=DEFINE.NAME("UFOIT5.NGD","=R98C13:R105C13")
=DEFINE.NAME("UFOIT5.TTSD","=R106C13:R108C13")
=DEFINE.NAME("NOP6.NGD0","=R117C8:R124C8")
=DEFINE.NAME("NOP6.NGD1","=R117C7:R124C7")
=DEFINE.NAME("NOP6.NGD2","=R117C6:R124C6")
=DEFINE.NAME("NOP6.TTSD0","=R125C8:R127C8")
=DEFINE.NAME("NOP6.TTSD1","=R125C7:R127C7")
=DEFINE.NAME("NOP6.TTSD2","=R125C6:R127C6")
=DEFINE.NAME("UFOIT6.NGD","=R117C13:R124C13")
=DEFINE.NAME("UFOIT6.TTSD","=R125C13:R127C13")
=DEFINE.NAME("NOP7.NGD0","=R136C8:R143C8")
=DEFINE.NAME("NOP7.NGD1","=R136C7:R143C7")
=DEFINE.NAME("NOP7.NGD2","=R136C6:R143C6")
=DEFINE.NAME("NOP7.TTSD0","=R144C8:R146C8")
=DEFINE.NAME("NOP7.TTSD1","=R144C7:R146C7")
```

```
=DEFINE.NAME("NOP7.TTSD2","=R144C6:R146C6")
=DEFINE.NAME("UFOIT7.NGD","=R136C13:R143C13")
=DEFINE.NAME("UFOIT7.TTSD","=R144C13:R146C13")
=DEFINE.NAME("NOP8.NGD0","=R155C8:R162C8")
=DEFINE.NAME("NOP8.NGD1","=R155C7:R162C7")
=DEFINE.NAME("NOP8.NGD2","=R155C6:R162C6")
=DEFINE.NAME("NOP8.TTSD0","=R163C8:R165C8")
=DEFINE.NAME("NOP8.TTSD1","=R163C7:R165C7")
=DEFINE.NAME("NOP8.TTSD2","=R163C6:R165C6")
=DEFINE.NAME("UFOIT8.NGD","=R155C13:R162C13")
=DEFINE.NAME("UFOIT8.TTSD","=R163C13:R165C13")
=DEFINE.NAME("NOP9.NGD0","=R174C8:R181C8")
=DEFINE.NAME("NOP9.NGD1","=R174C7:R181C7")
=DEFINE.NAME("NOP9.NGD2","=R174C6:R181C6")
=DEFINE.NAME("NOP9.TTSD0","=R182C8:R184C8")
=DEFINE.NAME("NOP9.TTSD1","=R182C7:R184C7")
=DEFINE.NAME("NOP9.TTSD2","=R182C6:R184C6")
=DEFINE.NAME("UFOIT9.NGD","=R174C13:R181C13")
=DEFINE.NAME("UFOIT9.TTSD","=R182C13:R184C13")
=DEFINE.NAME("NOP10.NGD0","=R193C8:R200C8")
=DEFINE.NAME("NOP10.NGD1","=R193C7:R200C7")
=DEFINE.NAME("NOP10.NGD2","=R193C6:R200C6")
=DEFINE.NAME("NOP10.TTSD0","=R201C8:R203C8")
=DEFINE.NAME("NOP10.TTSD1","=R201C7:R203C7")
=DEFINE.NAME("NOP10.TTSD2","=R201C6:R203C6")
=DEFINE.NAME("UFOIT10.NGD","=R193C13:R200C13")
=DEFINE.NAME("UFOIT10.TTSD","=R201C13:R203C13")
=DEFINE.NAME("NOP11.NGD0","=R212C8:R219C8")
=DEFINE.NAME("NOP11.NGD1","=R212C7:R219C7")
=DEFINE.NAME("NOP11.NGD2","=R212C6:R219C6")
=DEFINE.NAME("NOP11.TTSD0","=R220C8:R222C8")
=DEFINE.NAME("NOP11.TTSD1","=R220C7:R222C7")
=DEFINE.NAME("NOP11.TTSD2","=R220C6:R222C6")
=DEFINE.NAME("UFOIT11.NGD","=R212C13:R219C13")
=DEFINE.NAME("UFOIT11.TTSD","=R220C13:R222C13")
=DEFINE.NAME("NOP12.NGD0","=R231C8:R238C8")
=DEFINE.NAME("NOP12.NGD1","=R231C7:R238C7")
=DEFINE.NAME("NOP12.NGD2","=R231C6:R238C6")
=DEFINE.NAME("NOP12.TTSD0","=R239C8:R241C8")
=DEFINE.NAME("NOP12.TTSD1","=R239C7:R241C7")
=DEFINE.NAME("NOP12.TTSD2","=R239C6:R241C6")
=DEFINE.NAME("UFOIT12.NGD","=R231C13:R238C13")
=DEFINE.NAME("UFOIT12.TTSD","=R239C13:R241C13")
=DEFINE.NAME("NOP13.NGD0","=R250C8:R257C8")
=DEFINE.NAME("NOP13.NGD1","=R250C7:R257C7")
=DEFINE.NAME("NOP13.NGD2","=R250C6:R257C6")
=DEFINE.NAME("NOP13.TTSD0","=R258C8:R260C8")
=DEFINE.NAME("NOP13.TTSD1","=R258C7:R260C7")
=DEFINE.NAME("NOP13.TTSD2","=R258C6:R260C6")
=DEFINE.NAME("UFOIT13.NGD","=R250C13:R257C13")
=DEFINE.NAME("UFOIT13.TTSD","=R258C13:R260C13")
=RETURN()
```

CTMDSRanges

```
=DEFINE.NAME("CT1.NGD0","=R22C8:R29C8")
=DEFINE.NAME("CT1.NGD1","=R22C7:R29C7")
=DEFINE.NAME("CT1.NGD2","=R22C6:R29C6")
=DEFINE.NAME("CT1.TTSD0","=R30C8:R32C8")
=DEFINE.NAME("CT1.TTSD1","=R30C7:R32C7")
=DEFINE.NAME("CT1.TTSD2","=R30C6:R32C6")
=DEFINE.NAME("CT2.NGD0","=R41C8:R48C8")
=DEFINE.NAME("CT2.NGD1","=R41C7:R48C7")
=DEFINE.NAME("CT2.NGD2","=R41C6:R48C6")
=DEFINE.NAME("CT2.TTSD0","=R49C8:R51C8")
=DEFINE.NAME("CT2.TTSD1","=R49C7:R51C7")
=DEFINE.NAME("CT2.TTSD2","=R49C6:R51C6")
=DEFINE.NAME("CT3.NGD0","=R60C8:R67C8")
=DEFINE.NAME("CT3.NGD1","=R60C7:R67C7")
=DEFINE.NAME("CT3.NGD2","=R60C6:R67C6")
=DEFINE.NAME("CT3.TTSD0","=R68C8:R70C8")
=DEFINE.NAME("CT3.TTSD1","=R68C7:R70C7")
=DEFINE.NAME("CT3.TTSD2","=R68C6:R70C6")
=DEFINE.NAME("CT4.NGD0","=R79C8:R86C8")
=DEFINE.NAME("CT4.NGD1","=R79C7:R86C7")
=DEFINE.NAME("CT4.NGD2","=R79C6:R86C6")
=DEFINE.NAME("CT4.TTSD0","=R87C8:R89C8")
=DEFINE.NAME("CT4.TTSD1","=R87C7:R89C7")
=DEFINE.NAME("CT4.TTSD2","=R87C6:R89C6")
=DEFINE.NAME("CT5.NGD0","=R98C8:R105C8")
=DEFINE.NAME("CT5.NGD1","=R98C7:R105C7")
=DEFINE.NAME("CT5.NGD2","=R98C6:R105C6")
=DEFINE.NAME("CT5.TTSD0","=R106C8:R108C8")
=DEFINE.NAME("CT5.TTSD1","=R106C7:R108C7")
=DEFINE.NAME("CT5.TTSD2","=R106C6:R108C6")
=DEFINE.NAME("CT6.NGD0","=R117C8:R124C8")
=DEFINE.NAME("CT6.NGD1","=R117C7:R124C7")
=DEFINE.NAME("CT6.NGD2","=R117C6:R124C6")
=DEFINE.NAME("CT6.TTSD0","=R125C8:R127C8")
=DEFINE.NAME("CT6.TTSD1","=R125C7:R127C7")
=DEFINE.NAME("CT6.TTSD2","=R125C6:R127C6")
=DEFINE.NAME("CT7.NGD0","=R136C8:R143C8")
=DEFINE.NAME("CT7.NGD1","=R136C7:R143C7")
=DEFINE.NAME("CT7.NGD2","=R136C6:R143C6")
=DEFINE.NAME("CT7.TTSD0","=R144C8:R146C8")
=DEFINE.NAME("CT7.TTSD1","=R144C7:R146C7")
=DEFINE.NAME("CT7.TTSD2","=R144C6:R146C6")
=DEFINE.NAME("CT8.NGD0","=R155C8:R162C8")
=DEFINE.NAME("CT8.NGD1","=R155C7:R162C7")
=DEFINE.NAME("CT8.NGD2","=R155C6:R162C6")
=DEFINE.NAME("CT8.TTSD0","=R163C8:R165C8")
=DEFINE.NAME("CT8.TTSD1","=R163C7:R165C7")
=DEFINE.NAME("CT8.TTSD2","=R163C6:R165C6")
=DEFINE.NAME("CT9.NGD0","=R174C8:R181C8")
=DEFINE.NAME("CT9.NGD1","=R174C7:R181C7")
=DEFINE.NAME("CT9.NGD2","=R174C6:R181C6")
=DEFINE.NAME("CT9.TTSD0","=R182C8:R184C8")
=DEFINE.NAME("CT9.TTSD1","=R182C7:R184C7")
```

```
=DEFINE.NAME("CT9.TTSD2","=R182C6:R184C6")
=DEFINE.NAME("CT10.NGD0","=R193C8:R200C8")
=DEFINE.NAME("CT10.NGD1","=R193C7:R200C7")
=DEFINE.NAME("CT10.NGD2","=R193C6:R200C6")
=DEFINE.NAME("CT10.TTSD0","=R201C8:R203C8")
=DEFINE.NAME("CT10.TTSD1","=R201C7:R203C7")
=DEFINE.NAME("CT10.TTSD2","=R201C6:R203C6")
=DEFINE.NAME("CT11.NGD0","=R212C8:R219C8")
=DEFINE.NAME("CT11.NGD1","=R212C7:R219C7")
=DEFINE.NAME("CT11.NGD2","=R212C6:R219C6")
=DEFINE.NAME("CT11.TTSD0","=R220C8:R222C8")
=DEFINE.NAME("CT11.TTSD1","=R220C7:R222C7")
=DEFINE.NAME("CT11.TTSD2","=R220C6:R222C6")
=DEFINE.NAME("CT12.NGD0","=R231C8:R238C8")
=DEFINE.NAME("CT12.NGD1","=R231C7:R238C7")
=DEFINE.NAME("CT12.NGD2","=R231C6:R238C6")
=DEFINE.NAME("CT12.TTSD0","=R239C8:R241C8")
=DEFINE.NAME("CT12.TTSD1","=R239C7:R241C7")
=DEFINE.NAME("CT12.TTSD2","=R239C6:R241C6")
=DEFINE.NAME("CT13.NGD0","=R250C8:R257C8")
=DEFINE.NAME("CT13.NGD1","=R250C7:R257C7")
=DEFINE.NAME("CT13.NGD2","=R250C6:R257C6")
=DEFINE.NAME("CT13.TTSD0","=R258C8:R260C8")
=DEFINE.NAME("CT13.TTSD1","=R258C7:R260C7")
=DEFINE.NAME("CT13.TTSD2","=R258C6:R260C6")
=RETURN()
```

MMMDSRanges

```
=DEFINE.NAME("MM1.NGD0","=R22C8:R29C8")
=DEFINE.NAME("MM1.NGD1","=R22C7:R29C7")
=DEFINE.NAME("MM1.NGD2","=R22C6:R29C6")
=DEFINE.NAME("MM1.TTSD0","=R30C8:R32C8")
=DEFINE.NAME("MM1.TTSD1","=R30C7:R32C7")
=DEFINE.NAME("MM1.TTSD2","=R30C6:R32C6")
=DEFINE.NAME("MM2.NGD0","=R41C8:R48C8")
=DEFINE.NAME("MM2.NGD1","=R41C7:R48C7")
=DEFINE.NAME("MM2.NGD2","=R41C6:R48C6")
=DEFINE.NAME("MM2.TTSD0","=R49C8:R51C8")
=DEFINE.NAME("MM2.TTSD1","=R49C7:R51C7")
=DEFINE.NAME("MM2.TTSD2","=R49C6:R51C6")
=DEFINE.NAME("MM3.NGD0","=R60C8:R67C8")
=DEFINE.NAME("MM3.NGD1","=R60C7:R67C7")
=DEFINE.NAME("MM3.NGD2","=R60C6:R67C6")
=DEFINE.NAME("MM3.TTSD0","=R68C8:R70C8")
=DEFINE.NAME("MM3.TTSD1","=R68C7:R70C7")
=DEFINE.NAME("MM3.TTSD2","=R68C6:R70C6")
=DEFINE.NAME("MM4.NGD0","=R79C8:R86C8")
=DEFINE.NAME("MM4.NGD1","=R79C7:R86C7")
=DEFINE.NAME("MM4.NGD2","=R79C6:R86C6")
=DEFINE.NAME("MM4.TTSD0","=R87C8:R89C8")
=DEFINE.NAME("MM4.TTSD1","=R87C7:R89C7")
=DEFINE.NAME("MM4.TTSD2","=R87C6:R89C6")
=DEFINE.NAME("MM5.NGD0","=R98C8:R105C8")
=DEFINE.NAME("MM5.NGD1","=R98C7:R105C7")
=DEFINE.NAME("MM5.NGD2","=R98C6:R105C6")
=DEFINE.NAME("MM5.TTSD0","=R106C8:R108C8")
=DEFINE.NAME("MM5.TTSD1","=R106C7:R108C7")
=DEFINE.NAME("MM5.TTSD2","=R106C6:R108C6")
=DEFINE.NAME("MM6.NGD0","=R117C8:R124C8")
=DEFINE.NAME("MM6.NGD1","=R117C7:R124C7")
=DEFINE.NAME("MM6.NGD2","=R117C6:R124C6")
=DEFINE.NAME("MM6.TTSD0","=R125C8:R127C8")
=DEFINE.NAME("MM6.TTSD1","=R125C7:R127C7")
=DEFINE.NAME("MM6.TTSD2","=R125C6:R127C6")
=DEFINE.NAME("MM7.NGD0","=R136C8:R143C8")
=DEFINE.NAME("MM7.NGD1","=R136C7:R143C7")
=DEFINE.NAME("MM7.NGD2","=R136C6:R143C6")
=DEFINE.NAME("MM7.TTSD0","=R144C8:R146C8")
=DEFINE.NAME("MM7.TTSD1","=R144C7:R146C7")
=DEFINE.NAME("MM7.TTSD2","=R144C6:R146C6")
=DEFINE.NAME("MM8.NGD0","=R155C8:R162C8")
=DEFINE.NAME("MM8.NGD1","=R155C7:R162C7")
=DEFINE.NAME("MM8.NGD2","=R155C6:R162C6")
=DEFINE.NAME("MM8.TTSD0","=R163C8:R165C8")
=DEFINE.NAME("MM8.TTSD1","=R163C7:R165C7")
=DEFINE.NAME("MM8.TTSD2","=R163C6:R165C6")
=DEFINE.NAME("MM9.NGD0","=R174C8:R181C8")
=DEFINE.NAME("MM9.NGD1","=R174C7:R181C7")
=DEFINE.NAME("MM9.NGD2","=R174C6:R181C6")
=DEFINE.NAME("MM9.TTSD0","=R182C8:R184C8")
=DEFINE.NAME("MM9.TTSD1","=R182C7:R184C7")
```

```
=DEFINE.NAME("MM9.TTSD2","=R182C6:R184C6")
=DEFINE.NAME("MM10.NGD0","=R193C8:R200C8")
=DEFINE.NAME("MM10.NGD1","=R193C7:R200C7")
=DEFINE.NAME("MM10.NGD2","=R193C6:R200C6")
=DEFINE.NAME("MM10.TTSD0","=R201C8:R203C8")
=DEFINE.NAME("MM10.TTSD1","=R201C7:R203C7")
=DEFINE.NAME("MM10.TTSD2","=R201C6:R203C6")
=DEFINE.NAME("MM11.NGD0","=R212C8:R219C8")
=DEFINE.NAME("MM11.NGD1","=R212C7:R219C7")
=DEFINE.NAME("MM11.NGD2","=R212C6:R219C6")
=DEFINE.NAME("MM11.TTSD0","=R220C8:R222C8")
=DEFINE.NAME("MM11.TTSD1","=R220C7:R222C7")
=DEFINE.NAME("MM11.TTSD2","=R220C6:R222C6")
=DEFINE.NAME("MM12.NGD0","=R231C8:R238C8")
=DEFINE.NAME("MM12.NGD1","=R231C7:R238C7")
=DEFINE.NAME("MM12.NGD2","=R231C6:R238C6")
=DEFINE.NAME("MM12.TTSD0","=R239C8:R241C8")
=DEFINE.NAME("MM12.TTSD1","=R239C7:R241C7")
=DEFINE.NAME("MM12.TTSD2","=R239C6:R241C6")
=DEFINE.NAME("MM13.NGD0","=R250C8:R257C8")
=DEFINE.NAME("MM13.NGD1","=R250C7:R257C7")
=DEFINE.NAME("MM13.NGD2","=R250C6:R257C6")
=DEFINE.NAME("MM13.TTSD0","=R258C8:R260C8")
=DEFINE.NAME("MM13.TTSD1","=R258C7:R260C7")
=DEFINE.NAME("MM13.TTSD2","=R258C6:R260C6")
=RETURN()
```

CHTMDSRanges

```
=DEFINE.NAME("CHT1.NGD0","=R22C8:R29C8")
=DEFINE.NAME("CHT1.NGD1","=R22C7:R29C7")
=DEFINE.NAME("CHT1.NGD2","=R22C6:R29C6")
=DEFINE.NAME("CHT1.TTSD0","=R30C8:R32C8")
=DEFINE.NAME("CHT1.TTSD1","=R30C7:R32C7")
=DEFINE.NAME("CHT1.TTSD2","=R30C6:R32C6")
=DEFINE.NAME("CHT2.NGD0","=R41C8:R48C8")
=DEFINE.NAME("CHT2.NGD1","=R41C7:R48C7")
=DEFINE.NAME("CHT2.NGD2","=R41C6:R48C6")
=DEFINE.NAME("CHT2.TTSD0","=R49C8:R51C8")
=DEFINE.NAME("CHT2.TTSD1","=R49C7:R51C7")
=DEFINE.NAME("CHT2.TTSD2","=R49C6:R51C6")
=DEFINE.NAME("CHT3.NGD0","=R60C8:R67C8")
=DEFINE.NAME("CHT3.NGD1","=R60C7:R67C7")
=DEFINE.NAME("CHT3.NGD2","=R60C6:R67C6")
=DEFINE.NAME("CHT3.TTSD0","=R68C8:R70C8")
=DEFINE.NAME("CHT3.TTSD1","=R68C7:R70C7")
=DEFINE.NAME("CHT3.TTSD2","=R68C6:R70C6")
=DEFINE.NAME("CHT4.NGD0","=R79C8:R86C8")
=DEFINE.NAME("CHT4.NGD1","=R79C7:R86C7")
=DEFINE.NAME("CHT4.NGD2","=R79C6:R86C6")
=DEFINE.NAME("CHT4.TTSD0","=R87C8:R89C8")
=DEFINE.NAME("CHT4.TTSD1","=R87C7:R89C7")
=DEFINE.NAME("CHT4.TTSD2","=R87C6:R89C6")
=DEFINE.NAME("CHT5.NGD0","=R98C8:R105C8")
=DEFINE.NAME("CHT5.NGD1","=R98C7:R105C7")
=DEFINE.NAME("CHT5.NGD2","=R98C6:R105C6")
=DEFINE.NAME("CHT5.TTSD0","=R106C8:R108C8")
=DEFINE.NAME("CHT5.TTSD1","=R106C7:R108C7")
=DEFINE.NAME("CHT5.TTSD2","=R106C6:R108C6")
=DEFINE.NAME("CHT6.NGD0","=R117C8:R124C8")
=DEFINE.NAME("CHT6.NGD1","=R117C7:R124C7")
=DEFINE.NAME("CHT6.NGD2","=R117C6:R124C6")
=DEFINE.NAME("CHT6.TTSD0","=R125C8:R127C8")
=DEFINE.NAME("CHT6.TTSD1","=R125C7:R127C7")
=DEFINE.NAME("CHT6.TTSD2","=R125C6:R127C6")
=DEFINE.NAME("CHT7.NGD0","=R136C8:R143C8")
=DEFINE.NAME("CHT7.NGD1","=R136C7:R143C7")
=DEFINE.NAME("CHT7.NGD2","=R136C6:R143C6")
=DEFINE.NAME("CHT7.TTSD0","=R144C8:R146C8")
=DEFINE.NAME("CHT7.TTSD1","=R144C7:R146C7")
=DEFINE.NAME("CHT7.TTSD2","=R144C6:R146C6")
=DEFINE.NAME("CHT8.NGD0","=R155C8:R162C8")
=DEFINE.NAME("CHT8.NGD1","=R155C7:R162C7")
=DEFINE.NAME("CHT8.NGD2","=R155C6:R162C6")
=DEFINE.NAME("CHT8.TTSD0","=R163C8:R165C8")
=DEFINE.NAME("CHT8.TTSD1","=R163C7:R165C7")
=DEFINE.NAME("CHT8.TTSD2","=R163C6:R165C6")
=DEFINE.NAME("CHT9.NGD0","=R174C8:R181C8")
=DEFINE.NAME("CHT9.NGD1","=R174C7:R181C7")
=DEFINE.NAME("CHT9.NGD2","=R174C6:R181C6")
=DEFINE.NAME("CHT9.TTSD0","=R182C8:R184C8")
=DEFINE.NAME("CHT9.TTSD1","=R182C7:R184C7")
```

```
=DEFINE.NAME("CHT9.TTSD2","=R182C6:R184C6")
=DEFINE.NAME("CHT10.NGD0","=R193C8:R200C8")
=DEFINE.NAME("CHT10.NGD1","=R193C7:R200C7")
=DEFINE.NAME("CHT10.NGD2","=R193C6:R200C6")
=DEFINE.NAME("CHT10.TTSD0","=R201C8:R203C8")
=DEFINE.NAME("CHT10.TTSD1","=R201C7:R203C7")
=DEFINE.NAME("CHT10.TTSD2","=R201C6:R203C6")
=DEFINE.NAME("CHT11.NGD0","=R212C8:R219C8")
=DEFINE.NAME("CHT11.NGD1","=R212C7:R219C7")
=DEFINE.NAME("CHT11.NGD2","=R212C6:R219C6")
=DEFINE.NAME("CHT11.TTSD0","=R220C8:R222C8")
=DEFINE.NAME("CHT11.TTSD1","=R220C7:R222C7")
=DEFINE.NAME("CHT11.TTSD2","=R220C6:R222C6")
=DEFINE.NAME("CHT12.NGD0","=R231C8:R238C8")
=DEFINE.NAME("CHT12.NGD1","=R231C7:R238C7")
=DEFINE.NAME("CHT12.NGD2","=R231C6:R238C6")
=DEFINE.NAME("CHT12.TTSD0","=R239C8:R241C8")
=DEFINE.NAME("CHT12.TTSD1","=R239C7:R241C7")
=DEFINE.NAME("CHT12.TTSD2","=R239C6:R241C6")
=DEFINE.NAME("CHT13.NGD0","=R250C8:R257C8")
=DEFINE.NAME("CHT13.NGD1","=R250C7:R257C7")
=DEFINE.NAME("CHT13.NGD2","=R250C6:R257C6")
=DEFINE.NAME("CHT13.TTSD0","=R258C8:R260C8")
=DEFINE.NAME("CHT13.TTSD1","=R258C7:R260C7")
=DEFINE.NAME("CHT13.TTSD2","=R258C6:R260C6")
=RETURN()
```

MPNTCRanges

```
=DEFINE.NAME("MP1.WNTC0","=R22C8:R26C8")
=DEFINE.NAME("MP1.WNTC1","=R22C7:R26C7")
=DEFINE.NAME("MP1.WNTC2","=R22C6:R26C6")
=DEFINE.NAME("MP1.ENTC0","=R27C8:R32C8")
=DEFINE.NAME("MP1.ENTC1","=R27C7:R32C7")
=DEFINE.NAME("MP1.ENTC2","=R27C6:R32C6")
=DEFINE.NAME("MP2.WNTC0","=R41C8:R45C8")
=DEFINE.NAME("MP2.WNTC1","=R41C7:R45C7")
=DEFINE.NAME("MP2.WNTC2","=R41C6:R45C6")
=DEFINE.NAME("MP2.ENTC0","=R46C8:R51C8")
=DEFINE.NAME("MP2.ENTC1","=R46C7:R51C7")
=DEFINE.NAME("MP2.ENTC2","=R46C6:R51C6")
=DEFINE.NAME("MP3.WNTC0","=R60C8:R64C8")
=DEFINE.NAME("MP3.WNTC1","=R60C7:R64C7")
=DEFINE.NAME("MP3.WNTC2","=R60C6:R64C6")
=DEFINE.NAME("MP3.ENTC0","=R65C8:R70C8")
=DEFINE.NAME("MP3.ENTC1","=R65C7:R70C7")
=DEFINE.NAME("MP3.ENTC2","=R65C6:R70C6")
=DEFINE.NAME("MP4.WNTC0","=R79C8:R83C8")
=DEFINE.NAME("MP4.WNTC1","=R79C7:R83C7")
=DEFINE.NAME("MP4.WNTC2","=R79C6:R83C6")
=DEFINE.NAME("MP4.ENTC0","=R84C8:R89C8")
=DEFINE.NAME("MP4.ENTC1","=R84C7:R89C7")
=DEFINE.NAME("MP4.ENTC2","=R84C6:R89C6")
=DEFINE.NAME("MP5.WNTC0","=R98C8:R102C8")
=DEFINE.NAME("MP5.WNTC1","=R98C7:R102C7")
=DEFINE.NAME("MP5.WNTC2","=R98C6:R102C6")
=DEFINE.NAME("MP5.ENTC0","=R103C8:R108C8")
=DEFINE.NAME("MP5.ENTC1","=R103C7:R108C7")
=DEFINE.NAME("MP5.ENTC2","=R103C6:R108C6")
=DEFINE.NAME("MP6.WNTC0","=R117C8:R121C8")
=DEFINE.NAME("MP6.WNTC1","=R117C7:R121C7")
=DEFINE.NAME("MP6.WNTC2","=R117C6:R121C6")
=DEFINE.NAME("MP6.ENTC0","=R122C8:R127C8")
=DEFINE.NAME("MP6.ENTC1","=R122C7:R127C7")
=DEFINE.NAME("MP6.ENTC2","=R122C6:R127C6")
=DEFINE.NAME("MP7.WNTC0","=R136C8:R140C8")
=DEFINE.NAME("MP7.WNTC1","=R136C7:R140C7")
=DEFINE.NAME("MP7.WNTC2","=R136C6:R140C6")
=DEFINE.NAME("MP7.ENTC0","=R141C8:R146C8")
=DEFINE.NAME("MP7.ENTC1","=R141C7:R146C7")
=DEFINE.NAME("MP7.ENTC2","=R141C6:R146C6")
=DEFINE.NAME("MP8.WNTC0","=R155C8:R159C8")
=DEFINE.NAME("MP8.WNTC1","=R155C7:R159C7")
=DEFINE.NAME("MP8.WNTC2","=R155C6:R159C6")
=DEFINE.NAME("MP8.ENTC0","=R160C8:R165C8")
=DEFINE.NAME("MP8.ENTC1","=R160C7:R165C7")
=DEFINE.NAME("MP8.ENTC2","=R160C6:R165C6")
=DEFINE.NAME("MP9.WNTC0","=R174C8:R178C8")
=DEFINE.NAME("MP9.WNTC1","=R174C7:R178C7")
=DEFINE.NAME("MP9.WNTC2","=R174C6:R178C6")
=DEFINE.NAME("MP9.ENTC0","=R179C8:R184C8")
=DEFINE.NAME("MP9.ENTC1","=R179C7:R184C7")
```

```
=DEFINE.NAME("MP9.ENTC2","=R179C6:R184C6")
=DEFINE.NAME("MP10.WNTC0","=R193C8:R197C8")
=DEFINE.NAME("MP10.WNTC1","=R193C7:R197C7")
=DEFINE.NAME("MP10.WNTC2","=R193C6:R197C6")
=DEFINE.NAME("MP10.ENTC0","=R198C8:R203C8")
=DEFINE.NAME("MP10.ENTC1","=R198C7:R203C7")
=DEFINE.NAME("MP10.ENTC2","=R198C6:R203C6")
=DEFINE.NAME("MP11.WNTC0","=R212C8:R216C8")
=DEFINE.NAME("MP11.WNTC1","=R212C7:R216C7")
=DEFINE.NAME("MP11.WNTC2","=R212C6:R216C6")
=DEFINE.NAME("MP11.ENTC0","=R217C8:R222C8")
=DEFINE.NAME("MP11.ENTC1","=R217C7:R222C7")
=DEFINE.NAME("MP11.ENTC2","=R217C6:R222C6")
=DEFINE.NAME("MP12.WNTC0","=R231C8:R235C8")
=DEFINE.NAME("MP12.WNTC1","=R231C7:R235C7")
=DEFINE.NAME("MP12.WNTC2","=R231C6:R235C6")
=DEFINE.NAME("MP12.ENTC0","=R236C8:R241C8")
=DEFINE.NAME("MP12.ENTC1","=R236C7:R241C7")
=DEFINE.NAME("MP12.ENTC2","=R236C6:R241C6")
=DEFINE.NAME("MP13.WNTC0","=R250C8:R254C8")
=DEFINE.NAME("MP13.WNTC1","=R250C7:R254C7")
=DEFINE.NAME("MP13.WNTC2","=R250C6:R254C6")
=DEFINE.NAME("MP13.ENTC0","=R255C8:R260C8")
=DEFINE.NAME("MP13.ENTC1","=R255C7:R260C7")
=DEFINE.NAME("MP13.ENTC2","=R255C6:R260C6")
=RETURN()
```

NOPNTCRanges

```
=DEFINE.NAME("NOP1.WNTC0","=R22C8:R26C8")
=DEFINE.NAME("NOP1.WNTC1","=R22C7:R26C7")
=DEFINE.NAME("NOP1.WNTC2","=R22C6:R26C6")
=DEFINE.NAME("NOP1.ENTC0","=R27C8:R32C8")
=DEFINE.NAME("NOP1.ENTC1","=R27C7:R32C7")
=DEFINE.NAME("NOP1.ENTC2","=R27C6:R32C6")
=DEFINE.NAME("NOP2.WNTC0","=R41C8:R45C8")
=DEFINE.NAME("NOP2.WNTC1","=R41C7:R45C7")
=DEFINE.NAME("NOP2.WNTC2","=R41C6:R45C6")
=DEFINE.NAME("NOP2.ENTC0","=R46C8:R51C8")
=DEFINE.NAME("NOP2.ENTC1","=R46C7:R51C7")
=DEFINE.NAME("NOP2.ENTC2","=R46C6:R51C6")
=DEFINE.NAME("NOP3.WNTC0","=R60C8:R64C8")
=DEFINE.NAME("NOP3.WNTC1","=R60C7:R64C7")
=DEFINE.NAME("NOP3.WNTC2","=R60C6:R64C6")
=DEFINE.NAME("NOP3.ENTC0","=R65C8:R70C8")
=DEFINE.NAME("NOP3.ENTC1","=R65C7:R70C7")
=DEFINE.NAME("NOP3.ENTC2","=R65C6:R70C6")
=DEFINE.NAME("NOP4.WNTC0","=R79C8:R83C8")
=DEFINE.NAME("NOP4.WNTC1","=R79C7:R83C7")
=DEFINE.NAME("NOP4.WNTC2","=R79C6:R83C6")
=DEFINE.NAME("NOP4.ENTC0","=R84C8:R89C8")
=DEFINE.NAME("NOP4.ENTC1","=R84C7:R89C7")
=DEFINE.NAME("NOP4.ENTC2","=R84C6:R89C6")
=DEFINE.NAME("NOP5.WNTC0","=R98C8:R102C8")
=DEFINE.NAME("NOP5.WNTC1","=R98C7:R102C7")
=DEFINE.NAME("NOP5.WNTC2","=R98C6:R102C6")
=DEFINE.NAME("NOP5.ENTC0","=R103C8:R108C8")
=DEFINE.NAME("NOP5.ENTC1","=R103C7:R108C7")
=DEFINE.NAME("NOP5.ENTC2","=R103C6:R108C6")
=DEFINE.NAME("NOP6.WNTC0","=R117C8:R121C8")
=DEFINE.NAME("NOP6.WNTC1","=R117C7:R121C7")
=DEFINE.NAME("NOP6.WNTC2","=R117C6:R121C6")
=DEFINE.NAME("NOP6.ENTC0","=R122C8:R127C8")
=DEFINE.NAME("NOP6.ENTC1","=R122C7:R127C7")
=DEFINE.NAME("NOP6.ENTC2","=R122C6:R127C6")
=DEFINE.NAME("NOP7.WNTC0","=R136C8:R140C8")
=DEFINE.NAME("NOP7.WNTC1","=R136C7:R140C7")
=DEFINE.NAME("NOP7.WNTC2","=R136C6:R140C6")
=DEFINE.NAME("NOP7.ENTC0","=R141C8:R146C8")
=DEFINE.NAME("NOP7.ENTC1","=R141C7:R146C7")
=DEFINE.NAME("NOP7.ENTC2","=R141C6:R146C6")
=DEFINE.NAME("NOP8.WNTC0","=R155C8:R159C8")
=DEFINE.NAME("NOP8.WNTC1","=R155C7:R159C7")
=DEFINE.NAME("NOP8.WNTC2","=R155C6:R159C6")
=DEFINE.NAME("NOP8.ENTC0","=R160C8:R165C8")
=DEFINE.NAME("NOP8.ENTC1","=R160C7:R165C7")
=DEFINE.NAME("NOP8.ENTC2","=R160C6:R165C6")
=DEFINE.NAME("NOP9.WNTC0","=R174C8:R178C8")
=DEFINE.NAME("NOP9.WNTC1","=R174C7:R178C7")
=DEFINE.NAME("NOP9.WNTC2","=R174C6:R178C6")
=DEFINE.NAME("NOP9.ENTC0","=R179C8:R184C8")
=DEFINE.NAME("NOP9.ENTC1","=R179C7:R184C7")
```

```
=DEFINE.NAME("NOP9.ENTC2","=R179C6:R184C6")
=DEFINE.NAME("NOP10.WNTC0","=R193C8:R197C8")
=DEFINE.NAME("NOP10.WNTC1","=R193C7:R197C7")
=DEFINE.NAME("NOP10.WNTC2","=R193C6:R197C6")
=DEFINE.NAME("NOP10.ENTC0","=R198C8:R203C8")
=DEFINE.NAME("NOP10.ENTC1","=R198C7:R203C7")
=DEFINE.NAME("NOP10.ENTC2","=R198C6:R203C6")
=DEFINE.NAME("NOP11.WNTC0","=R212C8:R216C8")
=DEFINE.NAME("NOP11.WNTC1","=R212C7:R216C7")
=DEFINE.NAME("NOP11.WNTC2","=R212C6:R216C6")
=DEFINE.NAME("NOP11.ENTC0","=R217C8:R222C8")
=DEFINE.NAME("NOP11.ENTC1","=R217C7:R222C7")
=DEFINE.NAME("NOP11.ENTC2","=R217C6:R222C6")
=DEFINE.NAME("NOP12.WNTC0","=R231C8:R235C8")
=DEFINE.NAME("NOP12.WNTC1","=R231C7:R235C7")
=DEFINE.NAME("NOP12.WNTC2","=R231C6:R235C6")
=DEFINE.NAME("NOP12.ENTC0","=R236C8:R241C8")
=DEFINE.NAME("NOP12.ENTC1","=R236C7:R241C7")
=DEFINE.NAME("NOP12.ENTC2","=R236C6:R241C6")
=DEFINE.NAME("NOP13.WNTC0","=R250C8:R254C8")
=DEFINE.NAME("NOP13.WNTC1","=R250C7:R254C7")
=DEFINE.NAME("NOP13.WNTC2","=R250C6:R254C6")
=DEFINE.NAME("NOP13.ENTC0","=R255C8:R260C8")
=DEFINE.NAME("NOP13.ENTC1","=R255C7:R260C7")
=DEFINE.NAME("NOP13.ENTC2","=R255C6:R260C6")
=RETURN()
```

CTNTCRanges

```
=DEFINE.NAME("CT1.WNTC0","=R22C8:R26C8")
=DEFINE.NAME("CT1.WNTC1","=R22C7:R26C7")
=DEFINE.NAME("CT1.WNTC2","=R22C6:R26C6")
=DEFINE.NAME("CT1.ENTC0","=R27C8:R32C8")
=DEFINE.NAME("CT1.ENTC1","=R27C7:R32C7")
=DEFINE.NAME("CT1.ENTC2","=R27C6:R32C6")
=DEFINE.NAME("CT2.WNTC0","=R41C8:R45C8")
=DEFINE.NAME("CT2.WNTC1","=R41C7:R45C7")
=DEFINE.NAME("CT2.WNTC2","=R41C6:R45C6")
=DEFINE.NAME("CT2.ENTC0","=R46C8:R51C8")
=DEFINE.NAME("CT2.ENTC1","=R46C7:R51C7")
=DEFINE.NAME("CT2.ENTC2","=R46C6:R51C6")
=DEFINE.NAME("CT3.WNTC0","=R60C8:R64C8")
=DEFINE.NAME("CT3.WNTC1","=R60C7:R64C7")
=DEFINE.NAME("CT3.WNTC2","=R60C6:R64C6")
=DEFINE.NAME("CT3.ENTC0","=R65C8:R70C8")
=DEFINE.NAME("CT3.ENTC1","=R65C7:R70C7")
=DEFINE.NAME("CT3.ENTC2","=R65C6:R70C6")
=DEFINE.NAME("CT4.WNTC0","=R79C8:R83C8")
=DEFINE.NAME("CT4.WNTC1","=R79C7:R83C7")
=DEFINE.NAME("CT4.WNTC2","=R79C6:R83C6")
=DEFINE.NAME("CT4.ENTC0","=R84C8:R89C8")
=DEFINE.NAME("CT4.ENTC1","=R84C7:R89C7")
=DEFINE.NAME("CT4.ENTC2","=R84C6:R89C6")
=DEFINE.NAME("CT5.WNTC0","=R98C8:R102C8")
=DEFINE.NAME("CT5.WNTC1","=R98C7:R102C7")
=DEFINE.NAME("CT5.WNTC2","=R98C6:R102C6")
=DEFINE.NAME("CT5.ENTC0","=R103C8:R108C8")
=DEFINE.NAME("CT5.ENTC1","=R103C7:R108C7")
=DEFINE.NAME("CT5.ENTC2","=R103C6:R108C6")
=DEFINE.NAME("CT6.WNTC0","=R117C8:R121C8")
=DEFINE.NAME("CT6.WNTC1","=R117C7:R121C7")
=DEFINE.NAME("CT6.WNTC2","=R117C6:R121C6")
=DEFINE.NAME("CT6.ENTC0","=R122C8:R127C8")
=DEFINE.NAME("CT6.ENTC1","=R122C7:R127C7")
=DEFINE.NAME("CT6.ENTC2","=R122C6:R127C6")
=DEFINE.NAME("CT7.WNTC0","=R136C8:R140C8")
=DEFINE.NAME("CT7.WNTC1","=R136C7:R140C7")
=DEFINE.NAME("CT7.WNTC2","=R136C6:R140C6")
=DEFINE.NAME("CT7.ENTC0","=R141C8:R146C8")
=DEFINE.NAME("CT7.ENTC1","=R141C7:R146C7")
=DEFINE.NAME("CT7.ENTC2","=R141C6:R146C6")
=DEFINE.NAME("CT8.WNTC0","=R155C8:R159C8")
=DEFINE.NAME("CT8.WNTC1","=R155C7:R159C7")
=DEFINE.NAME("CT8.WNTC2","=R155C6:R159C6")
=DEFINE.NAME("CT8.ENTC0","=R160C8:R165C8")
=DEFINE.NAME("CT8.ENTC1","=R160C7:R165C7")
=DEFINE.NAME("CT8.ENTC2","=R160C6:R165C6")
=DEFINE.NAME("CT9.WNTC0","=R174C8:R178C8")
=DEFINE.NAME("CT9.WNTC1","=R174C7:R178C7")
=DEFINE.NAME("CT9.WNTC2","=R174C6:R178C6")
=DEFINE.NAME("CT9.ENTC0","=R179C8:R184C8")
=DEFINE.NAME("CT9.ENTC1","=R179C7:R184C7")
```

```
=DEFINE.NAME("CT9.ENTC2","=R179C6:R184C6")
=DEFINE.NAME("CT10.WNTC0","=R193C8:R197C8")
=DEFINE.NAME("CT10.WNTC1","=R193C7:R197C7")
=DEFINE.NAME("CT10.WNTC2","=R193C6:R197C6")
=DEFINE.NAME("CT10.ENTC0","=R198C8:R203C8")
=DEFINE.NAME("CT10.ENTC1","=R198C7:R203C7")
=DEFINE.NAME("CT10.ENTC2","=R198C6:R203C6")
=DEFINE.NAME("CT11.WNTC0","=R212C8:R216C8")
=DEFINE.NAME("CT11.WNTC1","=R212C7:R216C7")
=DEFINE.NAME("CT11.WNTC2","=R212C6:R216C6")
=DEFINE.NAME("CT11.ENTC0","=R217C8:R222C8")
=DEFINE.NAME("CT11.ENTC1","=R217C7:R222C7")
=DEFINE.NAME("CT11.ENTC2","=R217C6:R222C6")
=DEFINE.NAME("CT12.WNTC0","=R231C8:R235C8")
=DEFINE.NAME("CT12.WNTC1","=R231C7:R235C7")
=DEFINE.NAME("CT12.WNTC2","=R231C6:R235C6")
=DEFINE.NAME("CT12.ENTC0","=R236C8:R241C8")
=DEFINE.NAME("CT12.ENTC1","=R236C7:R241C7")
=DEFINE.NAME("CT12.ENTC2","=R236C6:R241C6")
=DEFINE.NAME("CT13.WNTC0","=R250C8:R254C8")
=DEFINE.NAME("CT13.WNTC1","=R250C7:R254C7")
=DEFINE.NAME("CT13.WNTC2","=R250C6:R254C6")
=DEFINE.NAME("CT13.ENTC0","=R255C8:R260C8")
=DEFINE.NAME("CT13.ENTC1","=R255C7:R260C7")
=DEFINE.NAME("CT13.ENTC2","=R255C6:R260C6")
=RETURN()
```

MMNTCRanges

```
=DEFINE.NAME("MM1.WNTC0","=R22C8:R26C8")
=DEFINE.NAME("MM1.WNTC1","=R22C7:R26C7")
=DEFINE.NAME("MM1.WNTC2","=R22C6:R26C6")
=DEFINE.NAME("MM1.ENTC0","=R27C8:R32C8")
=DEFINE.NAME("MM1.ENTC1","=R27C7:R32C7")
=DEFINE.NAME("MM1.ENTC2","=R27C6:R32C6")
=DEFINE.NAME("MM2.WNTC0","=R41C8:R45C8")
=DEFINE.NAME("MM2.WNTC1","=R41C7:R45C7")
=DEFINE.NAME("MM2.WNTC2","=R41C6:R45C6")
=DEFINE.NAME("MM2.ENTC0","=R46C8:R51C8")
=DEFINE.NAME("MM2.ENTC1","=R46C7:R51C7")
=DEFINE.NAME("MM2.ENTC2","=R46C6:R51C6")
=DEFINE.NAME("MM3.WNTC0","=R60C8:R64C8")
=DEFINE.NAME("MM3.WNTC1","=R60C7:R64C7")
=DEFINE.NAME("MM3.WNTC2","=R60C6:R64C6")
=DEFINE.NAME("MM3.ENTC0","=R65C8:R70C8")
=DEFINE.NAME("MM3.ENTC1","=R65C7:R70C7")
=DEFINE.NAME("MM3.ENTC2","=R65C6:R70C6")
=DEFINE.NAME("MM4.WNTC0","=R79C8:R83C8")
=DEFINE.NAME("MM4.WNTC1","=R79C7:R83C7")
=DEFINE.NAME("MM4.WNTC2","=R79C6:R83C6")
=DEFINE.NAME("MM4.ENTC0","=R84C8:R89C8")
=DEFINE.NAME("MM4.ENTC1","=R84C7:R89C7")
=DEFINE.NAME("MM4.ENTC2","=R84C6:R89C6")
=DEFINE.NAME("MM5.WNTC0","=R98C8:R102C8")
=DEFINE.NAME("MM5.WNTC1","=R98C7:R102C7")
=DEFINE.NAME("MM5.WNTC2","=R98C6:R102C6")
=DEFINE.NAME("MM5.ENTC0","=R103C8:R108C8")
=DEFINE.NAME("MM5.ENTC1","=R103C7:R108C7")
=DEFINE.NAME("MM5.ENTC2","=R103C6:R108C6")
=DEFINE.NAME("MM6.WNTC0","=R117C8:R121C8")
=DEFINE.NAME("MM6.WNTC1","=R117C7:R121C7")
=DEFINE.NAME("MM6.WNTC2","=R117C6:R121C6")
=DEFINE.NAME("MM6.ENTC0","=R122C8:R127C8")
=DEFINE.NAME("MM6.ENTC1","=R122C7:R127C7")
=DEFINE.NAME("MM6.ENTC2","=R122C6:R127C6")
=DEFINE.NAME("MM7.WNTC0","=R136C8:R140C8")
=DEFINE.NAME("MM7.WNTC1","=R136C7:R140C7")
=DEFINE.NAME("MM7.WNTC2","=R136C6:R140C6")
=DEFINE.NAME("MM7.ENTC0","=R141C8:R146C8")
=DEFINE.NAME("MM7.ENTC1","=R141C7:R146C7")
=DEFINE.NAME("MM7.ENTC2","=R141C6:R146C6")
=DEFINE.NAME("MM8.WNTC0","=R155C8:R159C8")
=DEFINE.NAME("MM8.WNTC1","=R155C7:R159C7")
=DEFINE.NAME("MM8.WNTC2","=R155C6:R159C6")
=DEFINE.NAME("MM8.ENTC0","=R160C8:R165C8")
=DEFINE.NAME("MM8.ENTC1","=R160C7:R165C7")
=DEFINE.NAME("MM8.ENTC2","=R160C6:R165C6")
=DEFINE.NAME("MM9.WNTC0","=R174C8:R178C8")
=DEFINE.NAME("MM9.WNTC1","=R174C7:R178C7")
=DEFINE.NAME("MM9.WNTC2","=R174C6:R178C6")
=DEFINE.NAME("MM9.ENTC0","=R179C8:R184C8")
=DEFINE.NAME("MM9.ENTC1","=R179C7:R184C7")
```

```
=DEFINE.NAME("MM9.ENTC2","=R179C6:R184C6")
=DEFINE.NAME("MM10.WNTC0","=R193C8:R197C8")
=DEFINE.NAME("MM10.WNTC1","=R193C7:R197C7")
=DEFINE.NAME("MM10.WNTC2","=R193C6:R197C6")
=DEFINE.NAME("MM10.ENTC0","=R198C8:R203C8")
=DEFINE.NAME("MM10.ENTC1","=R198C7:R203C7")
=DEFINE.NAME("MM10.ENTC2","=R198C6:R203C6")
=DEFINE.NAME("MM11.WNTC0","=R212C8:R216C8")
=DEFINE.NAME("MM11.WNTC1","=R212C7:R216C7")
=DEFINE.NAME("MM11.WNTC2","=R212C6:R216C6")
=DEFINE.NAME("MM11.ENTC0","=R217C8:R222C8")
=DEFINE.NAME("MM11.ENTC1","=R217C7:R222C7")
=DEFINE.NAME("MM11.ENTC2","=R217C6:R222C6")
=DEFINE.NAME("MM12.WNTC0","=R231C8:R235C8")
=DEFINE.NAME("MM12.WNTC1","=R231C7:R235C7")
=DEFINE.NAME("MM12.WNTC2","=R231C6:R235C6")
=DEFINE.NAME("MM12.ENTC0","=R236C8:R241C8")
=DEFINE.NAME("MM12.ENTC1","=R236C7:R241C7")
=DEFINE.NAME("MM12.ENTC2","=R236C6:R241C6")
=DEFINE.NAME("MM13.WNTC0","=R250C8:R254C8")
=DEFINE.NAME("MM13.WNTC1","=R250C7:R254C7")
=DEFINE.NAME("MM13.WNTC2","=R250C6:R254C6")
=DEFINE.NAME("MM13.ENTC0","=R255C8:R260C8")
=DEFINE.NAME("MM13.ENTC1","=R255C7:R260C7")
=DEFINE.NAME("MM13.ENTC2","=R255C6:R260C6")
=RETURN()
```

CHTNTCRanges

```
=DEFINE.NAME("CHT1.WNTC0","=R22C8:R26C8")
=DEFINE.NAME("CHT1.WNTC1","=R22C7:R26C7")
=DEFINE.NAME("CHT1.WNTC2","=R22C6:R26C6")
=DEFINE.NAME("CHT1.ENTC0","=R27C8:R32C8")
=DEFINE.NAME("CHT1.ENTC1","=R27C7:R32C7")
=DEFINE.NAME("CHT1.ENTC2","=R27C6:R32C6")
=DEFINE.NAME("CHT2.WNTC0","=R41C8:R45C8")
=DEFINE.NAME("CHT2.WNTC1","=R41C7:R45C7")
=DEFINE.NAME("CHT2.WNTC2","=R41C6:R45C6")
=DEFINE.NAME("CHT2.ENTC0","=R46C8:R51C8")
=DEFINE.NAME("CHT2.ENTC1","=R46C7:R51C7")
=DEFINE.NAME("CHT2.ENTC2","=R46C6:R51C6")
=DEFINE.NAME("CHT3.WNTC0","=R60C8:R64C8")
=DEFINE.NAME("CHT3.WNTC1","=R60C7:R64C7")
=DEFINE.NAME("CHT3.WNTC2","=R60C6:R64C6")
=DEFINE.NAME("CHT3.ENTC0","=R65C8:R70C8")
=DEFINE.NAME("CHT3.ENTC1","=R65C7:R70C7")
=DEFINE.NAME("CHT3.ENTC2","=R65C6:R70C6")
=DEFINE.NAME("CHT4.WNTC0","=R79C8:R83C8")
=DEFINE.NAME("CHT4.WNTC1","=R79C7:R83C7")
=DEFINE.NAME("CHT4.WNTC2","=R79C6:R83C6")
=DEFINE.NAME("CHT4.ENTC0","=R84C8:R89C8")
=DEFINE.NAME("CHT4.ENTC1","=R84C7:R89C7")
=DEFINE.NAME("CHT4.ENTC2","=R84C6:R89C6")
=DEFINE.NAME("CHT5.WNTC0","=R98C8:R102C8")
=DEFINE.NAME("CHT5.WNTC1","=R98C7:R102C7")
=DEFINE.NAME("CHT5.WNTC2","=R98C6:R102C6")
=DEFINE.NAME("CHT5.ENTC0","=R103C8:R108C8")
=DEFINE.NAME("CHT5.ENTC1","=R103C7:R108C7")
=DEFINE.NAME("CHT5.ENTC2","=R103C6:R108C6")
=DEFINE.NAME("CHT6.WNTC0","=R117C8:R121C8")
=DEFINE.NAME("CHT6.WNTC1","=R117C7:R121C7")
=DEFINE.NAME("CHT6.WNTC2","=R117C6:R121C6")
=DEFINE.NAME("CHT6.ENTC0","=R122C8:R127C8")
=DEFINE.NAME("CHT6.ENTC1","=R122C7:R127C7")
=DEFINE.NAME("CHT6.ENTC2","=R122C6:R127C6")
=DEFINE.NAME("CHT7.WNTC0","=R136C8:R140C8")
=DEFINE.NAME("CHT7.WNTC1","=R136C7:R140C7")
=DEFINE.NAME("CHT7.WNTC2","=R136C6:R140C6")
=DEFINE.NAME("CHT7.ENTC0","=R141C8:R146C8")
=DEFINE.NAME("CHT7.ENTC1","=R141C7:R146C7")
=DEFINE.NAME("CHT7.ENTC2","=R141C6:R146C6")
=DEFINE.NAME("CHT8.WNTC0","=R155C8:R159C8")
=DEFINE.NAME("CHT8.WNTC1","=R155C7:R159C7")
=DEFINE.NAME("CHT8.WNTC2","=R155C6:R159C6")
=DEFINE.NAME("CHT8.ENTC0","=R160C8:R165C8")
=DEFINE.NAME("CHT8.ENTC1","=R160C7:R165C7")
=DEFINE.NAME("CHT8.ENTC2","=R160C6:R165C6")
=DEFINE.NAME("CHT9.WNTC0","=R174C8:R178C8")
=DEFINE.NAME("CHT9.WNTC1","=R174C7:R178C7")
=DEFINE.NAME("CHT9.WNTC2","=R174C6:R178C6")
=DEFINE.NAME("CHT9.ENTC0","=R179C8:R184C8")
=DEFINE.NAME("CHT9.ENTC1","=R179C7:R184C7")
```

```
=DEFINE.NAME("CHT9.ENTC2","=R179C6:R184C6")
=DEFINE.NAME("CHT10.WNTC0","=R193C8:R197C8")
=DEFINE.NAME("CHT10.WNTC1","=R193C7:R197C7")
=DEFINE.NAME("CHT10.WNTC2","=R193C6:R197C6")
=DEFINE.NAME("CHT10.ENTC0","=R198C8:R203C8")
=DEFINE.NAME("CHT10.ENTC1","=R198C7:R203C7")
=DEFINE.NAME("CHT10.ENTC2","=R198C6:R203C6")
=DEFINE.NAME("CHT11.WNTC0","=R212C8:R216C8")
=DEFINE.NAME("CHT11.WNTC1","=R212C7:R216C7")
=DEFINE.NAME("CHT11.WNTC2","=R212C6:R216C6")
=DEFINE.NAME("CHT11.ENTC0","=R217C8:R222C8")
=DEFINE.NAME("CHT11.ENTC1","=R217C7:R222C7")
=DEFINE.NAME("CHT11.ENTC2","=R217C6:R222C6")
=DEFINE.NAME("CHT12.WNTC0","=R231C8:R235C8")
=DEFINE.NAME("CHT12.WNTC1","=R231C7:R235C7")
=DEFINE.NAME("CHT12.WNTC2","=R231C6:R235C6")
=DEFINE.NAME("CHT12.ENTC0","=R236C8:R241C8")
=DEFINE.NAME("CHT12.ENTC1","=R236C7:R241C7")
=DEFINE.NAME("CHT12.ENTC2","=R236C6:R241C6")
=DEFINE.NAME("CHT13.WNTC0","=R250C8:R254C8")
=DEFINE.NAME("CHT13.WNTC1","=R250C7:R254C7")
=DEFINE.NAME("CHT13.WNTC2","=R250C6:R254C6")
=DEFINE.NAME("CHT13.ENTC0","=R255C8:R260C8")
=DEFINE.NAME("CHT13.ENTC1","=R255C7:R260C7")
=DEFINE.NAME("CHT13.ENTC2","=R255C6:R260C6")
=RETURN()
```

2.4.2. MDS Macros

The MDS Macros worksheet contains a macro which defines range names in the MDS worksheet to be used internally, as well as a macro which specifies the link formulas to link to the basic worksheets.

DefineMDSRanges	This macro is executed from the MDS worksheet; that is, the MDS worksheet is the active worksheet. It defines the range names used internally by the MDS worksheet.
MakeMDSLinks	This macro is executed from the MDS worksheet; that is, the MDS worksheet is the active worksheet. It specifies the link formulas which link the MDS worksheet to the basic worksheets.

DefineMDSRanges

```
=DEFINE.NAME("MDS.MP1.E.NGD","=R8C2:R8C9")
=DEFINE.NAME("MDS.MP1.1.NGD","=R9C2:R9C9")
=DEFINE.NAME("MDS.MP1.2.NGD","=R10C2:R10C9")
=DEFINE.NAME("MDS.SSIT1.NGD","=R16C2:R16C9")
=DEFINE.NAME("MDS.MP1.E.TTSD","=R8C11:R8C13")
=DEFINE.NAME("MDS.MP1.1.TTSD","=R9C11:R9C13")
=DEFINE.NAME("MDS.MP1.2.TTSD","=R10C11:R10C13")
=DEFINE.NAME("MDS.SSIT1.TTSD","=R16C11:R16C13")
=DEFINE.NAME("MDS.NOP1.E.NGD","=R20C2:R20C9")
=DEFINE.NAME("MDS.NOP1.1.NGD","=R21C2:R21C9")
=DEFINE.NAME("MDS.NOP1.2.NGD","=R22C2:R22C9")
=DEFINE.NAME("MDS.UFOIT1.NGD","=R28C2:R28C9")
=DEFINE.NAME("MDS.NOP1.E.TTSD","=R20C11:R20C13")
=DEFINE.NAME("MDS.NOP1.1.TTSD","=R21C11:R21C13")
=DEFINE.NAME("MDS.NOP1.2.TTSD","=R22C11:R22C13")
=DEFINE.NAME("MDS.UFOIT1.TTSD","=R28C11:R28C13")
=DEFINE.NAME("MDS.CT1.E.NGD","=R32C2:R32C9")
=DEFINE.NAME("MDS.CT1.1.NGD","=R33C2:R33C9")
=DEFINE.NAME("MDS.CT1.2.NGD","=R34C2:R34C9")
=DEFINE.NAME("MDS.CT1.E.TTSD","=R32C11:R32C13")
=DEFINE.NAME("MDS.CT1.1.TTSD","=R33C11:R33C13")
=DEFINE.NAME("MDS.CT1.2.TTSD","=R34C11:R34C13")
=DEFINE.NAME("MDS.MM1.E.NGD","=R40C2:R40C9")
=DEFINE.NAME("MDS.MM1.1.NGD","=R41C2:R41C9")
=DEFINE.NAME("MDS.MM1.2.NGD","=R42C2:R42C9")
=DEFINE.NAME("MDS.MM1.E.TTSD","=R40C11:R40C13")
=DEFINE.NAME("MDS.MM1.1.TTSD","=R41C11:R41C13")
=DEFINE.NAME("MDS.MM1.2.TTSD","=R42C11:R42C13")
=DEFINE.NAME("MDS.CHT1.E.NGD","=R48C2:R48C9")
=DEFINE.NAME("MDS.CHT1.1.NGD","=R49C2:R49C9")
=DEFINE.NAME("MDS.CHT1.2.NGD","=R50C2:R50C9")
=DEFINE.NAME("MDS.CHT1.E.TTSD","=R48C11:R48C13")
=DEFINE.NAME("MDS.CHT1.1.TTSD","=R49C11:R49C13")
=DEFINE.NAME("MDS.CHT1.2.TTSD","=R50C11:R50C13")
=DEFINE.NAME("MDS.MP2.E.NGD","=R8C17:R8C24")
=DEFINE.NAME("MDS.MP2.1.NGD","=R9C17:R9C24")
=DEFINE.NAME("MDS.MP2.2.NGD","=R10C17:R10C24")
=DEFINE.NAME("MDS.SSIT2.NGD","=R16C17:R16C24")
=DEFINE.NAME("MDS.MP2.E.TTSD","=R8C26:R8C28")
=DEFINE.NAME("MDS.MP2.1.TTSD","=R9C26:R9C28")
=DEFINE.NAME("MDS.MP2.2.TTSD","=R10C26:R10C28")
=DEFINE.NAME("MDS.SSIT2.TTSD","=R16C26:R16C28")
=DEFINE.NAME("MDS.NOP2.E.NGD","=R20C17:R20C24")
=DEFINE.NAME("MDS.NOP2.1.NGD","=R21C17:R21C24")
=DEFINE.NAME("MDS.NOP2.2.NGD","=R22C17:R22C24")
=DEFINE.NAME("MDS.UFOIT2.NGD","=R28C17:R28C24")
=DEFINE.NAME("MDS.NOP2.E.TTSD","=R20C26:R20C28")
=DEFINE.NAME("MDS.NOP2.1.TTSD","=R21C26:R21C28")
=DEFINE.NAME("MDS.NOP2.2.TTSD","=R22C26:R22C28")
=DEFINE.NAME("MDS.UFOIT2.TTSD","=R28C26:R28C28")
=DEFINE.NAME("MDS.CT2.E.NGD","=R32C17:R32C24")
=DEFINE.NAME("MDS.CT2.1.NGD","=R33C17:R33C24")
=DEFINE.NAME("MDS.CT2.2.NGD","=R34C17:R34C24")
```

```
=DEFINE.NAME("MDS.CT2.E.TTSD","=R32C26:R32C28")
=DEFINE.NAME("MDS.CT2.1.TTSD","=R33C26:R33C28")
=DEFINE.NAME("MDS.CT2.2.TTSD","=R34C26:R34C28")
=DEFINE.NAME("MDS.MM2.E.NGD","=R40C17:R40C24")
=DEFINE.NAME("MDS.MM2.1.NGD","=R41C17:R41C24")
=DEFINE.NAME("MDS.MM2.2.NGD","=R42C17:R42C24")
=DEFINE.NAME("MDS.MM2.E.TTSD","=R40C26:R40C28")
=DEFINE.NAME("MDS.MM2.1.TTSD","=R41C26:R41C28")
=DEFINE.NAME("MDS.MM2.2.TTSD","=R42C26:R42C28")
=DEFINE.NAME("MDS.CHT2.E.NGD","=R48C17:R48C24")
=DEFINE.NAME("MDS.CHT2.1.NGD","=R49C17:R49C24")
=DEFINE.NAME("MDS.CHT2.2.NGD","=R50C17:R50C24")
=DEFINE.NAME("MDS.CHT2.E.TTSD","=R48C26:R48C28")
=DEFINE.NAME("MDS.CHT2.1.TTSD","=R49C26:R49C28")
=DEFINE.NAME("MDS.CHT2.2.TTSD","=R50C26:R50C28")
=DEFINE.NAME("MDS.MP3.E.NGD","=R8C32:R8C39")
=DEFINE.NAME("MDS.MP3.1.NGD","=R9C32:R9C39")
=DEFINE.NAME("MDS.MP3.2.NGD","=R10C32:R10C39")
=DEFINE.NAME("MDS.SSIT3.NGD","=R16C32:R16C39")
=DEFINE.NAME("MDS.MP3.E.TTSD","=R8C41:R8C43")
=DEFINE.NAME("MDS.MP3.1.TTSD","=R9C41:R9C43")
=DEFINE.NAME("MDS.MP3.2.TTSD","=R10C41:R10C43")
=DEFINE.NAME("MDS.SSIT3.TTSD","=R16C41:R16C43")
=DEFINE.NAME("MDS.NOP3.E.NGD","=R20C32:R20C39")
=DEFINE.NAME("MDS.NOP3.1.NGD","=R21C32:R21C39")
=DEFINE.NAME("MDS.NOP3.2.NGD","=R22C32:R22C39")
=DEFINE.NAME("MDS.UFOIT3.NGD","=R28C32:R28C39")
=DEFINE.NAME("MDS.NOP3.E.TTSD","=R20C41:R20C43")
=DEFINE.NAME("MDS.NOP3.1.TTSD","=R21C41:R21C43")
=DEFINE.NAME("MDS.NOP3.2.TTSD","=R22C41:R22C43")
=DEFINE.NAME("MDS.UFOIT3.TTSD","=R28C41:R28C43")
=DEFINE.NAME("MDS.CT3.E.NGD","=R32C32:R32C39")
=DEFINE.NAME("MDS.CT3.1.NGD","=R33C32:R33C39")
=DEFINE.NAME("MDS.CT3.2.NGD","=R34C32:R34C39")
=DEFINE.NAME("MDS.CT3.E.TTSD","=R32C41:R32C43")
=DEFINE.NAME("MDS.CT3.1.TTSD","=R33C41:R33C43")
=DEFINE.NAME("MDS.CT3.2.TTSD","=R34C41:R34C43")
=DEFINE.NAME("MDS.MM3.E.NGD","=R40C32:R40C39")
=DEFINE.NAME("MDS.MM3.1.NGD","=R41C32:R41C39")
=DEFINE.NAME("MDS.MM3.2.NGD","=R42C32:R42C39")
=DEFINE.NAME("MDS.MM3.E.TTSD","=R40C41:R40C43")
=DEFINE.NAME("MDS.MM3.1.TTSD","=R41C41:R41C43")
=DEFINE.NAME("MDS.MM3.2.TTSD","=R42C41:R42C43")
=DEFINE.NAME("MDS.CHT3.E.NGD","=R48C32:R48C39")
=DEFINE.NAME("MDS.CHT3.1.NGD","=R49C32:R49C39")
=DEFINE.NAME("MDS.CHT3.2.NGD","=R50C32:R50C39")
=DEFINE.NAME("MDS.CHT3.E.TTSD","=R48C41:R48C43")
=DEFINE.NAME("MDS.CHT3.1.TTSD","=R49C41:R49C43")
=DEFINE.NAME("MDS.CHT3.2.TTSD","=R50C41:R50C43")
=DEFINE.NAME("MDS.MP4.E.NGD","=R8C47:R8C54")
=DEFINE.NAME("MDS.MP4.1.NGD","=R9C47:R9C54")
=DEFINE.NAME("MDS.MP4.2.NGD","=R10C47:R10C54")
=DEFINE.NAME("MDS.SSIT4.NGD","=R16C47:R16C54")
=DEFINE.NAME("MDS.MP4.E.TTSD","=R8C56:R8C58")
```

```
=DEFINE.NAME("MDS.MP4.1.TTSD","=R9C56:R9C58")
=DEFINE.NAME("MDS.MP4.2.TTSD","=R10C56:R10C58")
=DEFINE.NAME("MDS.SSIT4.TTSD","=R16C56:R16C58")
=DEFINE.NAME("MDS.NOP4.E.NGD","=R20C47:R20C54")
=DEFINE.NAME("MDS.NOP4.1.NGD","=R21C47:R21C54")
=DEFINE.NAME("MDS.NOP4.2.NGD","=R22C47:R22C54")
=DEFINE.NAME("MDS.UFOIT4.NGD","=R28C47:R28C54")
=DEFINE.NAME("MDS.NOP4.E.TTSD","=R20C56:R20C58")
=DEFINE.NAME("MDS.NOP4.1.TTSD","=R21C56:R21C58")
=DEFINE.NAME("MDS.NOP4.2.TTSD","=R22C56:R22C58")
=DEFINE.NAME("MDS.UFOIT4.TTSD","=R28C56:R28C58")
=DEFINE.NAME("MDS.CT4.E.NGD","=R32C47:R32C54")
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=DEFINE.NAME("MDS.MM4.E.NGD","=R40C47:R40C54")
=DEFINE.NAME("MDS.MM4.1.NGD","=R41C47:R41C54")
=DEFINE.NAME("MDS.MM4.2.NGD","=R42C47:R42C54")
=DEFINE.NAME("MDS.MM4.E.TTSD","=R40C56:R40C58")
=DEFINE.NAME("MDS.MM4.1.TTSD","=R41C56:R41C58")
=DEFINE.NAME("MDS.MM4.2.TTSD","=R42C56:R42C58")
=DEFINE.NAME("MDS.CHT4.E.NGD","=R48C47:R48C54")
=DEFINE.NAME("MDS.CHT4.1.NGD","=R49C47:R49C54")
=DEFINE.NAME("MDS.CHT4.2.NGD","=R50C47:R50C54")
=DEFINE.NAME("MDS.CHT4.E.TTSD","=R48C56:R48C58")
=DEFINE.NAME("MDS.CHT4.1.TTSD","=R49C56:R49C58")
=DEFINE.NAME("MDS.CHT4.2.TTSD","=R50C56:R50C58")
=DEFINE.NAME("MDS.MP5.E.NGD","=R8C62:R8C69")
=DEFINE.NAME("MDS.MP5.1.NGD","=R9C62:R9C69")
=DEFINE.NAME("MDS.MP5.2.NGD","=R10C62:R10C69")
=DEFINE.NAME("MDS.SSIT5.NGD","=R16C62:R16C69")
=DEFINE.NAME("MDS.MP5.E.TTSD","=R8C71:R8C73")
=DEFINE.NAME("MDS.MP5.1.TTSD","=R9C71:R9C73")
=DEFINE.NAME("MDS.MP5.2.TTSD","=R10C71:R10C73")
=DEFINE.NAME("MDS.SSIT5.TTSD","=R16C71:R16C73")
=DEFINE.NAME("MDS.NOP5.E.NGD","=R20C62:R20C69")
=DEFINE.NAME("MDS.NOP5.1.NGD","=R21C62:R21C69")
=DEFINE.NAME("MDS.NOP5.2.NGD","=R22C62:R22C69")
=DEFINE.NAME("MDS.UFOIT5.NGD","=R28C62:R28C69")
=DEFINE.NAME("MDS.NOP5.E.TTSD","=R20C71:R20C73")
=DEFINE.NAME("MDS.NOP5.1.TTSD","=R21C71:R21C73")
=DEFINE.NAME("MDS.NOP5.2.TTSD","=R22C71:R22C73")
=DEFINE.NAME("MDS.UFOIT5.TTSD","=R28C71:R28C73")
=DEFINE.NAME("MDS.CT5.E.NGD","=R32C62:R32C69")
=DEFINE.NAME("MDS.CT5.1.NGD","=R33C62:R33C69")
=DEFINE.NAME("MDS.CT5.2.NGD","=R34C62:R34C69")
=DEFINE.NAME("MDS.CT5.E.TTSD","=R32C71:R32C73")
=DEFINE.NAME("MDS.CT5.1.TTSD","=R33C71:R33C73")
=DEFINE.NAME("MDS.CT5.2.TTSD","=R34C71:R34C73")
=DEFINE.NAME("MDS.MM5.E.NGD","=R40C62:R40C69")
=DEFINE.NAME("MDS.MM5.1.NGD","=R41C62:R41C69")
=DEFINE.NAME("MDS.MM5.2.NGD","=R42C62:R42C69")
```

```
=DEFINE.NAME("MDS.MM5.E.TTSD","=R40C71:R40C73")
=DEFINE.NAME("MDS.MM5.1.TTSD","=R41C71:R41C73")
=DEFINE.NAME("MDS.MM5.2.TTSD","=R42C71:R42C73")
=DEFINE.NAME("MDS.CHT5.E.NGD","=R48C62:R48C69")
=DEFINE.NAME("MDS.CHT5.1.NGD","=R49C62:R49C69")
=DEFINE.NAME("MDS.CHT5.2.NGD","=R50C62:R50C69")
=DEFINE.NAME("MDS.CHT5.E.TTSD","=R48C71:R48C73")
=DEFINE.NAME("MDS.CHT5.1.TTSD","=R49C71:R49C73")
=DEFINE.NAME("MDS.CHT5.2.TTSD","=R50C71:R50C73")
=DEFINE.NAME("MDS.MP6.E.NGD","=R8C77:R8C84")
=DEFINE.NAME("MDS.MP6.1.NGD","=R9C77:R9C84")
=DEFINE.NAME("MDS.MP6.2.NGD","=R10C77:R10C84")
=DEFINE.NAME("MDS.SSIT6.NGD","=R16C77:R16C84")
=DEFINE.NAME("MDS.MP6.E.TTSD","=R8C86:R8C88")
=DEFINE.NAME("MDS.MP6.1.TTSD","=R9C86:R9C88")
=DEFINE.NAME("MDS.MP6.2.TTSD","=R10C86:R10C88")
=DEFINE.NAME("MDS.SSIT6.TTSD","=R16C86:R16C88")
=DEFINE.NAME("MDS.NOP6.E.NGD","=R20C77:R20C84")
=DEFINE.NAME("MDS.NOP6.1.NGD","=R21C77:R21C84")
=DEFINE.NAME("MDS.NOP6.2.NGD","=R22C77:R22C84")
=DEFINE.NAME("MDS.UFOIT6.NGD","=R28C77:R28C84")
=DEFINE.NAME("MDS.NOP6.E.TTSD","=R20C86:R20C88")
=DEFINE.NAME("MDS.NOP6.1.TTSD","=R21C86:R21C88")
=DEFINE.NAME("MDS.NOP6.2.TTSD","=R22C86:R22C88")
=DEFINE.NAME("MDS.UFOIT6.TTSD","=R28C86:R28C88")
=DEFINE.NAME("MDS.CT6.E.NGD","=R32C77:R32C84")
=DEFINE.NAME("MDS.CT6.1.NGD","=R33C77:R33C84")
=DEFINE.NAME("MDS.CT6.2.NGD","=R34C77:R34C84")
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=DEFINE.NAME("MDS.CT6.1.TTSD","=R33C86:R33C88")
=DEFINE.NAME("MDS.CT6.2.TTSD","=R34C86:R34C88")
=DEFINE.NAME("MDS.MM6.E.NGD","=R40C77:R40C84")
=DEFINE.NAME("MDS.MM6.1.NGD","=R41C77:R41C84")
=DEFINE.NAME("MDS.MM6.2.NGD","=R42C77:R42C84")
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=DEFINE.NAME("MDS.MM6.1.TTSD","=R41C86:R41C88")
=DEFINE.NAME("MDS.MM6.2.TTSD","=R42C86:R42C88")
=DEFINE.NAME("MDS.CHT6.E.NGD","=R48C77:R48C84")
=DEFINE.NAME("MDS.CHT6.1.NGD","=R49C77:R49C84")
=DEFINE.NAME("MDS.CHT6.2.NGD","=R50C77:R50C84")
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=DEFINE.NAME("MDS.CHT6.1.TTSD","=R49C86:R49C88")
=DEFINE.NAME("MDS.CHT6.2.TTSD","=R50C86:R50C88")
=DEFINE.NAME("MDS.MP7.E.NGD","=R8C92:R8C99")
=DEFINE.NAME("MDS.MP7.1.NGD","=R9C92:R9C99")
=DEFINE.NAME("MDS.MP7.2.NGD","=R10C92:R10C99")
=DEFINE.NAME("MDS.SSIT7.NGD","=R16C92:R16C99")
=DEFINE.NAME("MDS.MP7.E.TTSD","=R8C101:R8C103")
=DEFINE.NAME("MDS.MP7.1.TTSD","=R9C101:R9C103")
=DEFINE.NAME("MDS.MP7.2.TTSD","=R10C101:R10C103")
=DEFINE.NAME("MDS.SSIT7.TTSD","=R16C101:R16C103")
=DEFINE.NAME("MDS.NOP7.E.NGD","=R20C92:R20C99")
=DEFINE.NAME("MDS.NOP7.1.NGD","=R21C92:R21C99")
=DEFINE.NAME("MDS.NOP7.2.NGD","=R22C92:R22C99")
```

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=DEFINE.NAME("MDS.UFOIT7.NGD","=R28C92:R28C99")
=DEFINE.NAME("MDS.NOP7.E.TTSD","=R20C101:R20C103")
=DEFINE.NAME("MDS.NOP7.1.TTSD","=R21C101:R21C103")
=DEFINE.NAME("MDS.NOP7.2.TTSD","=R22C101:R22C103")
=DEFINE.NAME("MDS.UFOIT7.TTSD","=R28C101:R28C103")
=DEFINE.NAME("MDS.CT7.E.NGD","=R32C92:R32C99")
=DEFINE.NAME("MDS.CT7.1.NGD","=R33C92:R33C99")
=DEFINE.NAME("MDS.CT7.2.NGD","=R34C92:R34C99")
=DEFINE.NAME("MDS.CT7.E.TTSD","=R32C101:R32C103")
=DEFINE.NAME("MDS.CT7.1.TTSD","=R33C101:R33C103")
=DEFINE.NAME("MDS.CT7.2.TTSD","=R34C101:R34C103")
=DEFINE.NAME("MDS.MM7.E.NGD","=R40C92:R40C99")
=DEFINE.NAME("MDS.MM7.1.NGD","=R41C92:R41C99")
=DEFINE.NAME("MDS.MM7.2.NGD","=R42C92:R42C99")
=DEFINE.NAME("MDS.MM7.E.TTSD","=R40C101:R40C103")
=DEFINE.NAME("MDS.MM7.1.TTSD","=R41C101:R41C103")
=DEFINE.NAME("MDS.MM7.2.TTSD","=R42C101:R42C103")
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=DEFINE.NAME("MDS.CHT7.1.NGD","=R49C92:R49C99")
=DEFINE.NAME("MDS.CHT7.2.NGD","=R50C92:R50C99")
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=DEFINE.NAME("MDS.MP8.2.NGD","=R10C107:R10C114")
=DEFINE.NAME("MDS.SSIT8.NGD","=R16C107:R16C114")
=DEFINE.NAME("MDS.MP8.E.TTSD","=R8C116:R8C118")
=DEFINE.NAME("MDS.MP8.1.TTSD","=R9C116:R9C118")
=DEFINE.NAME("MDS.MP8.2.TTSD","=R10C116:R10C118")
=DEFINE.NAME("MDS.SSIT8.TTSD","=R16C116:R16C118")
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=DEFINE.NAME("MDS.NOP8.1.NGD","=R21C107:R21C114")
=DEFINE.NAME("MDS.NOP8.2.NGD","=R22C107:R22C114")
=DEFINE.NAME("MDS.UFOIT8.NGD","=R28C107:R28C114")
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=DEFINE.NAME("MDS.NOP8.1.TTSD","=R21C116:R21C118")
=DEFINE.NAME("MDS.NOP8.2.TTSD","=R22C116:R22C118")
=DEFINE.NAME("MDS.UFOIT8.TTSD","=R28C116:R28C118")
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=DEFINE.NAME("MDS.MM8.2.NGD","=R42C107:R42C114")
=DEFINE.NAME("MDS.MM8.E.TTSD","=R40C116:R40C118")
=DEFINE.NAME("MDS.MM8.1.TTSD","=R41C116:R41C118")
=DEFINE.NAME("MDS.MM8.2.TTSD","=R42C116:R42C118")
=DEFINE.NAME("MDS.CHT8.E.NGD","=R48C107:R48C114")
=DEFINE.NAME("MDS.CHT8.1.NGD","=R49C107:R49C114")
=DEFINE.NAME("MDS.CHT8.2.NGD","=R50C107:R50C114")
```

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=DEFINE.NAME("MDS.CHT8.E.TTSD","=R48C116:R48C118")
=DEFINE.NAME("MDS.CHT8.1.TTSD","=R49C116:R49C118")
=DEFINE.NAME("MDS.CHT8.2.TTSD","=R50C116:R50C118")
=DEFINE.NAME("MDS.MP9.E.NGD","=R8C122:R8C129")
=DEFINE.NAME("MDS.MP9.1.NGD","=R9C122:R9C129")
=DEFINE.NAME("MDS.MP9.2.NGD","=R10C122:R10C129")
=DEFINE.NAME("MDS.SSIT9.NGD","=R16C122:R16C129")
=DEFINE.NAME("MDS.MP9.E.TTSD","=R8C131:R8C133")
=DEFINE.NAME("MDS.MP9.1.TTSD","=R9C131:R9C133")
=DEFINE.NAME("MDS.MP9.2.TTSD","=R10C131:R10C133")
=DEFINE.NAME("MDS.SSIT9.TTSD","=R16C131:R16C133")
=DEFINE.NAME("MDS.NOP9.E.NGD","=R20C122:R20C129")
=DEFINE.NAME("MDS.NOP9.1.NGD","=R21C122:R21C129")
=DEFINE.NAME("MDS.NOP9.2.NGD","=R22C122:R22C129")
=DEFINE.NAME("MDS.UFOIT9.NGD","=R28C122:R28C129")
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=DEFINE.NAME("MDS.NOP9.1.TTSD","=R21C131:R21C133")
=DEFINE.NAME("MDS.NOP9.2.TTSD","=R22C131:R22C133")
=DEFINE.NAME("MDS.UFOIT9.TTSD","=R28C131:R28C133")
=DEFINE.NAME("MDS.CT9.E.NGD","=R32C122:R32C129")
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=DEFINE.NAME("MDS.CT9.2.NGD","=R34C122:R34C129")
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=DEFINE.NAME("MDS.CT9.1.TTSD","=R33C131:R33C133")
=DEFINE.NAME("MDS.CT9.2.TTSD","=R34C131:R34C133")
=DEFINE.NAME("MDS.MM9.E.NGD","=R40C122:R40C129")
=DEFINE.NAME("MDS.MM9.1.NGD","=R41C122:R41C129")
=DEFINE.NAME("MDS.MM9.2.NGD","=R42C122:R42C129")
=DEFINE.NAME("MDS.MM9.E.TTSD","=R40C131:R40C133")
=DEFINE.NAME("MDS.MM9.1.TTSD","=R41C131:R41C133")
=DEFINE.NAME("MDS.MM9.2.TTSD","=R42C131:R42C133")
=DEFINE.NAME("MDS.CHT9.E.NGD","=R48C122:R48C129")
=DEFINE.NAME("MDS.CHT9.1.NGD","=R49C122:R49C129")
=DEFINE.NAME("MDS.CHT9.2.NGD","=R50C122:R50C129")
=DEFINE.NAME("MDS.CHT9.E.TTSD","=R48C131:R48C133")
=DEFINE.NAME("MDS.CHT9.1.TTSD","=R49C131:R49C133")
=DEFINE.NAME("MDS.CHT9.2.TTSD","=R50C131:R50C133")
=DEFINE.NAME("MDS.MP10.E.NGD","=R8C137:R8C144")
=DEFINE.NAME("MDS.MP10.1.NGD","=R9C137:R9C144")
=DEFINE.NAME("MDS.MP10.2.NGD","=R10C137:R10C144")
=DEFINE.NAME("MDS.SSIT10.NGD","=R16C137:R16C144")
=DEFINE.NAME("MDS.MP10.E.TTSD","=R8C146:R8C148")
=DEFINE.NAME("MDS.MP10.1.TTSD","=R9C146:R9C148")
=DEFINE.NAME("MDS.MP10.2.TTSD","=R10C146:R10C148")
=DEFINE.NAME("MDS.SSIT10.TTSD","=R16C146:R16C148")
=DEFINE.NAME("MDS.NOP10.E.NGD","=R20C137:R20C144")
=DEFINE.NAME("MDS.NOP10.1.NGD","=R21C137:R21C144")
=DEFINE.NAME("MDS.NOP10.2.NGD","=R22C137:R22C144")
=DEFINE.NAME("MDS.UFOIT10.NGD","=R28C137:R28C144")
=DEFINE.NAME("MDS.NOP10.E.TTSD","=R20C146:R20C148")
=DEFINE.NAME("MDS.NOP10.1.TTSD","=R21C146:R21C148")
=DEFINE.NAME("MDS.NOP10.2.TTSD","=R22C146:R22C148")
=DEFINE.NAME("MDS.UFOIT10.TTSD","=R28C146:R28C148")
=DEFINE.NAME("MDS.CT10.E.NGD","=R32C137:R32C144")
```

```
=DEFINE.NAME("MDS.CT10.1.NGD","=R33C137:R33C144")
=DEFINE.NAME("MDS.CT10.2.NGD","=R34C137:R34C144")
=DEFINE.NAME("MDS.CT10.E.TTSD","=R32C146:R32C148")
=DEFINE.NAME("MDS.CT10.1.TTSD","=R33C146:R33C148")
=DEFINE.NAME("MDS.CT10.2.TTSD","=R34C146:R34C148")
=DEFINE.NAME("MDS.MM10.E.NGD","=R40C137:R40C144")
=DEFINE.NAME("MDS.MM10.1.NGD","=R41C137:R41C144")
=DEFINE.NAME("MDS.MM10.2.NGD","=R42C137:R42C144")
=DEFINE.NAME("MDS.MM10.E.TTSD","=R40C146:R40C148")
=DEFINE.NAME("MDS.MM10.1.TTSD","=R41C146:R41C148")
=DEFINE.NAME("MDS.MM10.2.TTSD","=R42C146:R42C148")
=DEFINE.NAME("MDS.CHT10.E.NGD","=R48C137:R48C144")
=DEFINE.NAME("MDS.CHT10.1.NGD","=R49C137:R49C144")
=DEFINE.NAME("MDS.CHT10.2.NGD","=R50C137:R50C144")
=DEFINE.NAME("MDS.CHT10.E.TTSD","=R48C146:R48C148")
=DEFINE.NAME("MDS.CHT10.1.TTSD","=R49C146:R49C148")
=DEFINE.NAME("MDS.CHT10.2.TTSD","=R50C146:R50C148")
=RETURN()
```

MakeMDSLinks

```
=SELECT(!MDS.MP1.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP2.NGD2)")
=SELECT(!MDS.MP1.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP2.NGD1)")
=SELECT(!MDS.MP1.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP3.NGD2)")
=SELECT(!MDS.MP1.E.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP2.TTSD2)")
=SELECT(!MDS.MP1.1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP2.TTSD1)")
=SELECT(!MDS.MP1.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP3.TTSD2)")
=SELECT(!MDS.SSIT1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!SSIT1.NGD)")
=SELECT(!MDS.SSIT1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!SSIT1.TTSD)")
=SELECT(!MDS.NOP1.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP2.NGD2)")
=SELECT(!MDS.NOP1.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP2.NGD1)")
=SELECT(!MDS.NOP1.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP3.NGD2)")
=SELECT(!MDS.NOP1.E.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP2.TTSD2)")
=SELECT(!MDS.NOP1.1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP2.TTSD1)")
=SELECT(!MDS.NOP1.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP3.TTSD2)")
=SELECT(!MDS.UFOIT1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!UFOIT1.NGD)")
=SELECT(!MDS.UFOIT1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!UFOIT1.TTSD)")
=SELECT(!MDS.CT1.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT2.NGD2)")
=SELECT(!MDS.CT1.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT2.NGD1)")
=SELECT(!MDS.CT1.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT3.NGD2)")
=SELECT(!MDS.CT1.E.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT2.TTSD2)")
=SELECT(!MDS.CT1.1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT2.TTSD1)")
=SELECT(!MDS.CT1.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT3.TTSD2)")
=SELECT(!MDS.MM1.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM2.NGD2)")
=SELECT(!MDS.MM1.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM2.NGD1)")
=SELECT(!MDS.MM1.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM3.NGD2)")
=SELECT(!MDS.MM1.E.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM2.TTSD2)")
=SELECT(!MDS.MM1.1.TTSD)
```

```
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM2.TTSD1)")
=SELECT(!MDS.MM1.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM3.TTSD2)")
=SELECT(!MDS.CHT1.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT2.NGD2)")
=SELECT(!MDS.CHT1.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT2.NGD1)")
=SELECT(!MDS.CHT1.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT3.NGD2)")
=SELECT(!MDS.CHT1.E.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT2.TTSD2)")
=SELECT(!MDS.CHT1.1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT2.TTSD1)")
=SELECT(!MDS.CHT1.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT3.TTSD2)")
=SELECT(!MDS.MP2.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP3.NGD2)")
=SELECT(!MDS.MP2.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP3.NGD1)")
=SELECT(!MDS.MP2.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP4.NGD2)")
=SELECT(!MDS.MP2.E.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP3.TTSD2)")
=SELECT(!MDS.MP2.1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP3.TTSD1)")
=SELECT(!MDS.MP2.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP4.TTSD2)")
=SELECT(!MDS.SSIT2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!SSIT2.NGD)")
=SELECT(!MDS.SSIT2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!SSIT2.TTSD)")
=SELECT(!MDS.NOP2.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP3.NGD2)")
=SELECT(!MDS.NOP2.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP3.NGD1)")
=SELECT(!MDS.NOP2.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP4.NGD2)")
=SELECT(!MDS.NOP2.E.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP3.TTSD2)")
=SELECT(!MDS.NOP2.1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP3.TTSD1)")
=SELECT(!MDS.NOP2.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP4.TTSD2)")
=SELECT(!MDS.UFOIT2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!UFOIT2.NGD)")
=SELECT(!MDS.UFOIT2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!UFOIT2.TTSD)")
=SELECT(!MDS.CT2.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT3.NGD2)")
=SELECT(!MDS.CT2.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT3.NGD1)")
=SELECT(!MDS.CT2.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT4.NGD2)")
=SELECT(!MDS.CT2.E.TTSD)
```

```
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT3.TTSD2)")
=SELECT(!MDS.CT2.1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT3.TTSD1)")
=SELECT(!MDS.CT2.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT4.TTSD2)")
=SELECT(!MDS.MM2.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM3.NGD2)")
=SELECT(!MDS.MM2.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM3.NGD1)")
=SELECT(!MDS.MM2.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM4.NGD2)")
=SELECT(!MDS.MM2.E.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM3.TTSD2)")
=SELECT(!MDS.MM2.1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM3.TTSD1)")
=SELECT(!MDS.MM2.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM4.TTSD2)")
=SELECT(!MDS.CHT2.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT3.NGD2)")
=SELECT(!MDS.CHT2.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT3.NGD1)")
=SELECT(!MDS.CHT2.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT4.NGD2)")
=SELECT(!MDS.CHT2.E.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT3.TTSD2)")
=SELECT(!MDS.CHT2.1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT3.TTSD1)")
=SELECT(!MDS.CHT2.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT4.TTSD2)")
=SELECT(!MDS.MP3.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP4.NGD2)")
=SELECT(!MDS.MP3.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP4.NGD1)")
=SELECT(!MDS.MP3.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP5.NGD2)")
=SELECT(!MDS.MP3.E.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP4.TTSD2)")
=SELECT(!MDS.MP3.1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP4.TTSD1)")
=SELECT(!MDS.MP3.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP5.TTSD2)")
=SELECT(!MDS.SSIT3.NGD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!SSIT3.NGD)")
=SELECT(!MDS.SSIT3.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!SSIT3.TTSD)")
=SELECT(!MDS.NOP3.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP4.NGD2)")
=SELECT(!MDS.NOP3.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP4.NGD1)")
=SELECT(!MDS.NOP3.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP5.NGD2)")
=SELECT(!MDS.NOP3.E.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP4.TTSD2)")
=SELECT(!MDS.NOP3.1.TTSD)
```

```
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP4.TTSD1)")
=SELECT(!MDS.NOP3.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP5.TTSD2)")
=SELECT(!MDS.UFOIT3.NGD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!UFOIT3.NGD)")
=SELECT(!MDS.UFOIT3.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!UFOIT3.TTSD)")
=SELECT(!MDS.CT3.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT4.NGD2)")
=SELECT(!MDS.CT3.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT4.NGD1)")
=SELECT(!MDS.CT3.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT5.NGD2)")
=SELECT(!MDS.CT3.E.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT4.TTSD2)")
=SELECT(!MDS.CT3.1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT4.TTSD1)")
=SELECT(!MDS.CT3.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT5.TTSD2)")
=SELECT(!MDS.MM3.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM4.NGD2)")
=SELECT(!MDS.MM3.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM4.NGD1)")
=SELECT(!MDS.MM3.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM5.NGD2)")
=SELECT(!MDS.MM3.E.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM4.TTSD2)")
=SELECT(!MDS.MM3.1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM4.TTSD1)")
=SELECT(!MDS.MM3.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM5.TTSD2)")
=SELECT(!MDS.CHT3.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT4.NGD2)")
=SELECT(!MDS.CHT3.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT4.NGD1)")
=SELECT(!MDS.CHT3.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT5.NGD2)")
=SELECT(!MDS.CHT3.E.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT4.TTSD2)")
=SELECT(!MDS.CHT3.1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT4.TTSD1)")
=SELECT(!MDS.CHT3.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT5.TTSD2)")
=SELECT(!MDS.MP4.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP5.NGD2)")
=SELECT(!MDS.MP4.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP5.NGD1)")
=SELECT(!MDS.MP4.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP6.NGD2)")
=SELECT(!MDS.MP4.E.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP5.TTSD2)")
=SELECT(!MDS.MP4.1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP5.TTSD1)")
=SELECT(!MDS.MP4.2.TTSD)
```

```
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP6.TTSD2)")
=SELECT(!MDS.SSIT4.NGD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!SSIT4.NGD)")
=SELECT(!MDS.SSIT4.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!SSIT4.TTSD)")
=SELECT(!MDS.NOP4.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP5.NGD2)")
=SELECT(!MDS.NOP4.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP5.NGD1)")
=SELECT(!MDS.NOP4.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP6.NGD2)")
=SELECT(!MDS.NOP4.E.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP5.TTSD2)")
=SELECT(!MDS.NOP4.1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP5.TTSD1)")
=SELECT(!MDS.NOP4.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP6.TTSD2)")
=SELECT(!MDS.UFOIT4.NGD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!UFOIT4.NGD)")
=SELECT(!MDS.UFOIT4.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!UFOIT4.TTSD)")
=SELECT(!MDS.CT4.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT5.NGD2)")
=SELECT(!MDS.CT4.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT5.NGD1)")
=SELECT(!MDS.CT4.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT6.NGD2)")
=SELECT(!MDS.CT4.E.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT5.TTSD2)")
=SELECT(!MDS.CT4.1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT5.TTSD1)")
=SELECT(!MDS.CT4.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT6.TTSD2)")
=SELECT(!MDS.MM4.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM5.NGD2)")
=SELECT(!MDS.MM4.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM5.NGD1)")
=SELECT(!MDS.MM4.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM6.NGD2)")
=SELECT(!MDS.MM4.E.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM5.TTSD2)")
=SELECT(!MDS.MM4.1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM5.TTSD1)")
=SELECT(!MDS.MM4.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM6.TTSD2)")
=SELECT(!MDS.CHT4.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT5.NGD2)")
=SELECT(!MDS.CHT4.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT5.NGD1)")
=SELECT(!MDS.CHT4.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT6.NGD2)")
=SELECT(!MDS.CHT4.E.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT5.TTSD2)")
=SELECT(!MDS.CHT4.1.TTSD)
```

```
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT5.TTSD1)")
=SELECT(!MDS.CHT4.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT6.TTSD2)")
=SELECT(!MDS.MP5.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP6.NGD2)")
=SELECT(!MDS.MP5.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP6.NGD1)")
=SELECT(!MDS.MP5.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP7.NGD2)")
=SELECT(!MDS.MP5.E.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP6.TTSD2)")
=SELECT(!MDS.MP5.1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP6.TTSD1)")
=SELECT(!MDS.MP5.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP7.TTSD2)")
=SELECT(!MDS.SSIT5.NGD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!SSIT5.NGD)")
=SELECT(!MDS.SSIT5.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!SSIT5.TTSD)")
=SELECT(!MDS.NOP5.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP6.NGD2)")
=SELECT(!MDS.NOP5.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP6.NGD1)")
=SELECT(!MDS.NOP5.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP7.NGD2)")
=SELECT(!MDS.NOP5.E.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP6.TTSD2)")
=SELECT(!MDS.NOP5.1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP6.TTSD1)")
=SELECT(!MDS.NOP5.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP7.TTSD2)")
=SELECT(!MDS.UFOIT5.NGD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!UFOIT5.NGD)")
=SELECT(!MDS.UFOIT5.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!UFOIT5.TTSD)")
=SELECT(!MDS.CT5.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT6.NGD2)")
=SELECT(!MDS.CT5.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT6.NGD1)")
=SELECT(!MDS.CT5.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT7.NGD2)")
=SELECT(!MDS.CT5.E.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT6.TTSD2)")
=SELECT(!MDS.CT5.1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT6.TTSD1)")
=SELECT(!MDS.CT5.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT7.TTSD2)")
=SELECT(!MDS.MM5.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM6.NGD2)")
=SELECT(!MDS.MM5.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM6.NGD1)")
=SELECT(!MDS.MM5.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM7.NGD2)")
=SELECT(!MDS.MM5.E.TTSD)
```

```
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM6.TTSD2)")
=SELECT(!MDS.MM5.1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM6.TTSD1)")
=SELECT(!MDS.MM5.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM7.TTSD2)")
=SELECT(!MDS.CHT5.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT6.NGD2)")
=SELECT(!MDS.CHT5.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT6.NGD1)")
=SELECT(!MDS.CHT5.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT7.NGD2)")
=SELECT(!MDS.CHT5.E.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT6.TTSD2)")
=SELECT(!MDS.CHT5.1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT6.TTSD1)")
=SELECT(!MDS.CHT5.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT7.TTSD2)")
=SELECT(!MDS.MP6.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP7.NGD2)")
=SELECT(!MDS.MP6.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP7.NGD1)")
=SELECT(!MDS.MP6.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP8.NGD2)")
=SELECT(!MDS.MP6.E.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP7.TTSD2)")
=SELECT(!MDS.MP6.1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP7.TTSD1)")
=SELECT(!MDS.MP6.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP8.TTSD2)")
=SELECT(!MDS.SSIT6.NGD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!SSIT6.NGD)")
=SELECT(!MDS.SSIT6.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!SSIT6.TTSD)")
=SELECT(!MDS.NOP6.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP7.NGD2)")
=SELECT(!MDS.NOP6.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP7.NGD1)")
=SELECT(!MDS.NOP6.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP8.NGD2)")
=SELECT(!MDS.NOP6.E.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP7.TTSD2)")
=SELECT(!MDS.NOP6.1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP7.TTSD1)")
=SELECT(!MDS.NOP6.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP8.TTSD2)")
=SELECT(!MDS.UFOIT6.NGD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!UFOIT6.NGD)")
=SELECT(!MDS.UFOIT6.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!UFOIT6.TTSD)")
=SELECT(!MDS.CT6.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT7.NGD2)")
=SELECT(!MDS.CT6.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT7.NGD1)")
=SELECT(!MDS.CT6.2.NGD)
```

```
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT8.NGD2)")
=SELECT(!MDS.CT6.E.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT7.TTSD2)")
=SELECT(!MDS.CT6.1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT7.TTSD1)")
=SELECT(!MDS.CT6.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT8.TTSD2)")
=SELECT(!MDS.MM6.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM7.NGD2)")
=SELECT(!MDS.MM6.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM7.NGD1)")
=SELECT(!MDS.MM6.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM8.NGD2)")
=SELECT(!MDS.MM6.E.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM7.TTSD2)")
=SELECT(!MDS.MM6.1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM7.TTSD1)")
=SELECT(!MDS.MM6.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM8.TTSD2)")
=SELECT(!MDS.CHT6.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT7.NGD2)")
=SELECT(!MDS.CHT6.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT7.NGD1)")
=SELECT(!MDS.CHT6.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT8.NGD2)")
=SELECT(!MDS.CHT6.E.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT7.TTSD2)")
=SELECT(!MDS.CHT6.1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT7.TTSD1)")
=SELECT(!MDS.CHT6.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT8.TTSD2)")
=SELECT(!MDS.MP7.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP8.NGD2)")
=SELECT(!MDS.MP7.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP8.NGD1)")
=SELECT(!MDS.MP7.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP9.NGD2)")
=SELECT(!MDS.MP7.E.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP8.TTSD2)")
=SELECT(!MDS.MP7.1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP8.TTSD1)")
=SELECT(!MDS.MP7.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP9.TTSD2)")
=SELECT(!MDS.SSIT7.NGD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!SSIT7.NGD)")
=SELECT(!MDS.SSIT7.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!SSIT7.TTSD)")
=SELECT(!MDS.NOP7.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP8.NGD2)")
=SELECT(!MDS.NOP7.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP8.NGD1)")
=SELECT(!MDS.NOP7.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP9.NGD2)")
=SELECT(!MDS.NOP7.E.TTSD)
```

```
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP8.TTSD2)")
=SELECT(!MDS.NOP7.1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP8.TTSD1)")
=SELECT(!MDS.NOP7.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP9.TTSD2)")
=SELECT(!MDS.UFOIT7.NGD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!UFOIT7.NGD)")
=SELECT(!MDS.UFOIT7.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!UFOIT7.TTSD)")
=SELECT(!MDS.CT7.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT8.NGD2)")
=SELECT(!MDS.CT7.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT8.NGD1)")
=SELECT(!MDS.CT7.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT9.NGD2)")
=SELECT(!MDS.CT7.E.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT8.TTSD2)")
=SELECT(!MDS.CT7.1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT8.TTSD1)")
=SELECT(!MDS.CT7.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT9.TTSD2)")
=SELECT(!MDS.MM7.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM8.NGD2)")
=SELECT(!MDS.MM7.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM8.NGD1)")
=SELECT(!MDS.MM7.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM9.NGD2)")
=SELECT(!MDS.MM7.E.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM8.TTSD2)")
=SELECT(!MDS.MM7.1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM8.TTSD1)")
=SELECT(!MDS.MM7.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM9.TTSD2)")
=SELECT(!MDS.CHT7.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT8.NGD2)")
=SELECT(!MDS.CHT7.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT8.NGD1)")
=SELECT(!MDS.CHT7.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT9.NGD2)")
=SELECT(!MDS.CHT7.E.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT8.TTSD2)")
=SELECT(!MDS.CHT7.1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT8.TTSD1)")
=SELECT(!MDS.CHT7.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT9.TTSD2)")
=SELECT(!MDS.MP8.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP9.NGD2)")
=SELECT(!MDS.MP8.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP9.NGD1)")
=SELECT(!MDS.MP8.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP10.NGD2)")
=SELECT(!MDS.MP8.E.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP9.TTSD2)")
=SELECT(!MDS.MP8.1.TTSD)
```

```
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP9.TTSD1)")
=SELECT(!MDS.MP8.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP10.TTSD2)")
=SELECT(!MDS.SSIT8.NGD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!SSIT8.NGD)")
=SELECT(!MDS.SSIT8.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!SSIT8.TTSD)")
=SELECT(!MDS.NOP8.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP9.NGD2)")
=SELECT(!MDS.NOP8.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP9.NGD1)")
=SELECT(!MDS.NOP8.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP10.NGD2)")
=SELECT(!MDS.NOP8.E.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP9.TTSD2)")
=SELECT(!MDS.NOP8.1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP9.TTSD1)")
=SELECT(!MDS.NOP8.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP10.TTSD2)")
=SELECT(!MDS.UFOIT8.NGD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!UFOIT8.NGD)")
=SELECT(!MDS.UFOIT8.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!UFOIT8.TTSD)")
=SELECT(!MDS.CT8.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT9.NGD2)")
=SELECT(!MDS.CT8.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT9.NGD1)")
=SELECT(!MDS.CT8.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT10.NGD2)")
=SELECT(!MDS.CT8.E.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT9.TTSD2)")
=SELECT(!MDS.CT8.1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT9.TTSD1)")
=SELECT(!MDS.CT8.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT10.TTSD2)")
=SELECT(!MDS.MM8.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM9.NGD2)")
=SELECT(!MDS.MM8.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM9.NGD1)")
=SELECT(!MDS.MM8.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM10.NGD2)")
=SELECT(!MDS.MM8.E.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM9.TTSD2)")
=SELECT(!MDS.MM8.1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM9.TTSD1)")
=SELECT(!MDS.MM8.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM10.TTSD2)")
=SELECT(!MDS.CHT8.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT9.NGD2)")
=SELECT(!MDS.CHT8.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT9.NGD1)")
=SELECT(!MDS.CHT8.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT10.NGD2)")
=SELECT(!MDS.CHT8.E.TTSD)
```

```
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT9.TTSD2)")
=SELECT(!MDS.CHT8.1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT9.TTSD1)")
=SELECT(!MDS.CHT8.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT10.TTSD2)")
=SELECT(!MDS.MP9.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP10.NGD2)")
=SELECT(!MDS.MP9.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP10.NGD1)")
=SELECT(!MDS.MP9.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP11.NGD2)")
=SELECT(!MDS.MP9.E.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP10.TTSD2)")
=SELECT(!MDS.MP9.1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP10.TTSD1)")
=SELECT(!MDS.MP9.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP11.TTSD2)")
=SELECT(!MDS.SSIT9.NGD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!SSIT9.NGD)")
=SELECT(!MDS.SSIT9.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!SSIT9.TTSD)")
=SELECT(!MDS.NOP9.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP10.NGD2)")
=SELECT(!MDS.NOP9.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP10.NGD1)")
=SELECT(!MDS.NOP9.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP11.NGD2)")
=SELECT(!MDS.NOP9.E.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP10.TTSD2)")
=SELECT(!MDS.NOP9.1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP10.TTSD1)")
=SELECT(!MDS.NOP9.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP11.TTSD2)")
=SELECT(!MDS.UFOIT9.NGD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!UFOIT9.NGD)")
=SELECT(!MDS.UFOIT9.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!UFOIT9.TTSD)")
=SELECT(!MDS.CT9.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT10.NGD2)")
=SELECT(!MDS.CT9.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT10.NGD1)")
=SELECT(!MDS.CT9.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT11.NGD2)")
=SELECT(!MDS.CT9.E.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT10.TTSD2)")
=SELECT(!MDS.CT9.1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT10.TTSD1)")
=SELECT(!MDS.CT9.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT11.TTSD2)")
=SELECT(!MDS.MM9.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM10.NGD2)")
=SELECT(!MDS.MM9.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM10.NGD1)")
=SELECT(!MDS.MM9.2.NGD)
```

```
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM11.NGD2)")
=SELECT(!MDS.MM9.E.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM10.TTSD2)")
=SELECT(!MDS.MM9.1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM10.TTSD1)")
=SELECT(!MDS.MM9.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM11.TTSD2)")
=SELECT(!MDS.CHT9.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT10.NGD2)")
=SELECT(!MDS.CHT9.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT10.NGD1)")
=SELECT(!MDS.CHT9.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT11.NGD2)")
=SELECT(!MDS.CHT9.E.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT10.TTSD2)")
=SELECT(!MDS.CHT9.1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT10.TTSD1)")
=SELECT(!MDS.CHT9.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT11.TTSD2)")
=SELECT(!MDS.MP10.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP11.NGD2)")
=SELECT(!MDS.MP10.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP11.NGD1)")
=SELECT(!MDS.MP10.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP12.NGD2)")
=SELECT(!MDS.MP10.E.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP11.TTSD2)")
=SELECT(!MDS.MP10.1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP11.TTSD1)")
=SELECT(!MDS.MP10.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP12.TTSD2)")
=SELECT(!MDS.SSIT10.NGD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!SSIT10.NGD)")
=SELECT(!MDS.SSIT10.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!SSIT10.TTSD)")
=SELECT(!MDS.NOP10.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP11.NGD2)")
=SELECT(!MDS.NOP10.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP11.NGD1)")
=SELECT(!MDS.NOP10.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP12.NGD2)")
=SELECT(!MDS.NOP10.E.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP11.TTSD2)")
=SELECT(!MDS.NOP10.1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP11.TTSD1)")
=SELECT(!MDS.NOP10.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP12.TTSD2)")
=SELECT(!MDS.UFOIT10.NGD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!UFOIT10.NGD)")
=SELECT(!MDS.UFOIT10.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!UFOIT10.TTSD)")
=SELECT(!MDS.CT10.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT11.NGD2)")
=SELECT(!MDS.CT10.1.NGD)
```

```
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT11.NGD1)")
=SELECT(!MDS.CT10.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT12.NGD2)")
=SELECT(!MDS.CT10.E.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT11.TTSD2)")
=SELECT(!MDS.CT10.1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT11.TTSD1)")
=SELECT(!MDS.CT10.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT12.TTSD2)")
=SELECT(!MDS.MM10.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM11.NGD2)")
=SELECT(!MDS.MM10.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM11.NGD1)")
=SELECT(!MDS.MM10.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM12.NGD2)")
=SELECT(!MDS.MM10.E.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM11.TTSD2)")
=SELECT(!MDS.MM10.1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM11.TTSD1)")
=SELECT(!MDS.MM10.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM12.TTSD2)")
=SELECT(!MDS.CHT10.E.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT11.NGD2)")
=SELECT(!MDS.CHT10.1.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT11.NGD1)")
=SELECT(!MDS.CHT10.2.NGD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT12.NGD2)")
=SELECT(!MDS.CHT10.E.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT11.TTSD2)")
=SELECT(!MDS.CHT10.1.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT11.TTSD1)")
=SELECT(!MDS.CHT10.2.TTSD)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT12.TTSD2)")
=RETURN()
```

2.4.3. NTC Macros

The NTC Macros worksheet contains a macro which defines range names in the NTC worksheet to be used internally, as well as a macro which specifies the link formulas to link to the basic worksheets, and a third macro which defines range names in the NTC worksheet which will be referenced externally by the HIRE worksheet.

DefineNTCRanges	This macro is executed from the NTC worksheet; that is, the NTC worksheet is the active worksheet. It defines the range names used internally by the NTC worksheet.
MakeNTCLinks	This macro is executed from the NTC worksheet; that is, the NTC worksheet is the active worksheet. It specifies the link formulas which link the NTC worksheet to the basic worksheets.
DefineHireNTCRanges	This macro is executed from the NTC worksheet; that is, the NTC worksheet is the active worksheet. It defines range names in the NTC worksheet which will be referenced externally from the HIRE worksheet.

DefineNTCRanges

```
=DEFINE.NAME("NTC.MP1.0.WNTC","=R8C5:R8C9")
=DEFINE.NAME("NTC.MP1.1.WNTC","=R9C5:R9C9")
=DEFINE.NAME("NTC.MP1.2.WNTC","=R10C5:R10C9")
=DEFINE.NAME("NTC.MP1.0.ENTC","=R59C5:R59C10")
=DEFINE.NAME("NTC.MP1.1.ENTC","=R60C5:R60C10")
=DEFINE.NAME("NTC.MP1.2.ENTC","=R61C5:R61C10")
=DEFINE.NAME("NTC.NOP1.0.WNTC","=R15C5:R15C9")
=DEFINE.NAME("NTC.NOP1.1.WNTC","=R16C5:R16C9")
=DEFINE.NAME("NTC.NOP1.2.WNTC","=R17C5:R17C9")
=DEFINE.NAME("NTC.NOP1.0.ENTC","=R66C5:R66C10")
=DEFINE.NAME("NTC.NOP1.1.ENTC","=R67C5:R67C10")
=DEFINE.NAME("NTC.NOP1.2.ENTC","=R68C5:R68C10")
=DEFINE.NAME("NTC.CT1.0.WNTC","=R22C5:R22C9")
=DEFINE.NAME("NTC.CT1.1.WNTC","=R23C5:R23C9")
=DEFINE.NAME("NTC.CT1.2.WNTC","=R24C5:R24C9")
=DEFINE.NAME("NTC.CT1.0.ENTC","=R73C5:R73C10")
=DEFINE.NAME("NTC.CT1.1.ENTC","=R74C5:R74C10")
=DEFINE.NAME("NTC.CT1.2.ENTC","=R75C5:R75C10")
=DEFINE.NAME("NTC.MM1.0.WNTC","=R29C5:R29C9")
=DEFINE.NAME("NTC.MM1.1.WNTC","=R30C5:R30C9")
=DEFINE.NAME("NTC.MM1.2.WNTC","=R31C5:R31C9")
=DEFINE.NAME("NTC.MM1.0.ENTC","=R80C5:R80C10")
=DEFINE.NAME("NTC.MM1.1.ENTC","=R81C5:R81C10")
=DEFINE.NAME("NTC.MM1.2.ENTC","=R82C5:R82C10")
=DEFINE.NAME("NTC.CHT1.0.WNTC","=R36C5:R36C9")
=DEFINE.NAME("NTC.CHT1.1.WNTC","=R37C5:R37C9")
=DEFINE.NAME("NTC.CHT1.2.WNTC","=R38C5:R38C9")
=DEFINE.NAME("NTC.CHT1.0.ENTC","=R87C5:R87C10")
=DEFINE.NAME("NTC.CHT1.1.ENTC","=R88C5:R88C10")
=DEFINE.NAME("NTC.CHT1.2.ENTC","=R89C5:R89C10")
=DEFINE.NAME("NTC.MP2.0.WNTC","=R8C19:R8C23")
=DEFINE.NAME("NTC.MP2.1.WNTC","=R9C19:R9C23")
=DEFINE.NAME("NTC.MP2.2.WNTC","=R10C19:R10C23")
=DEFINE.NAME("NTC.MP2.0.ENTC","=R59C19:R59C24")
=DEFINE.NAME("NTC.MP2.1.ENTC","=R60C19:R60C24")
=DEFINE.NAME("NTC.MP2.2.ENTC","=R61C19:R61C24")
=DEFINE.NAME("NTC.NOP2.0.WNTC","=R15C19:R15C23")
=DEFINE.NAME("NTC.NOP2.1.WNTC","=R16C19:R16C23")
=DEFINE.NAME("NTC.NOP2.2.WNTC","=R17C19:R17C23")
=DEFINE.NAME("NTC.NOP2.0.ENTC","=R66C19:R66C24")
=DEFINE.NAME("NTC.NOP2.1.ENTC","=R67C19:R67C24")
=DEFINE.NAME("NTC.NOP2.2.ENTC","=R68C19:R68C24")
=DEFINE.NAME("NTC.CT2.0.WNTC","=R22C19:R22C23")
=DEFINE.NAME("NTC.CT2.1.WNTC","=R23C19:R23C23")
=DEFINE.NAME("NTC.CT2.2.WNTC","=R24C19:R24C23")
=DEFINE.NAME("NTC.CT2.0.ENTC","=R73C19:R73C24")
=DEFINE.NAME("NTC.CT2.1.ENTC","=R74C19:R74C24")
=DEFINE.NAME("NTC.CT2.2.ENTC","=R75C19:R75C24")
=DEFINE.NAME("NTC.MM2.0.WNTC","=R29C19:R29C23")
=DEFINE.NAME("NTC.MM2.1.WNTC","=R30C19:R30C23")
=DEFINE.NAME("NTC.MM2.2.WNTC","=R31C19:R31C23")
=DEFINE.NAME("NTC.MM2.0.ENTC","=R80C19:R80C24")
=DEFINE.NAME("NTC.MM2.1.ENTC","=R81C19:R81C24")
```

```
=DEFINE.NAME("NTC.MM2.2.ENTC","=R82C19:R82C24")
=DEFINE.NAME("NTC.CHT2.0.WNTC","=R36C19:R36C23")
=DEFINE.NAME("NTC.CHT2.1.WNTC","=R37C19:R37C23")
=DEFINE.NAME("NTC.CHT2.2.WNTC","=R38C19:R38C23")
=DEFINE.NAME("NTC.CHT2.0.ENTC","=R87C19:R87C24")
=DEFINE.NAME("NTC.CHT2.1.ENTC","=R88C19:R88C24")
=DEFINE.NAME("NTC.CHT2.2.ENTC","=R89C19:R89C24")
=DEFINE.NAME("NTC.MP3.0.WNTC","=R8C33:R8C37")
=DEFINE.NAME("NTC.MP3.1.WNTC","=R9C33:R9C37")
=DEFINE.NAME("NTC.MP3.2.WNTC","=R10C33:R10C37")
=DEFINE.NAME("NTC.MP3.0.ENTC","=R59C33:R59C38")
=DEFINE.NAME("NTC.MP3.1.ENTC","=R60C33:R60C38")
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=DEFINE.NAME("NTC.NOP3.1.ENTC","=R67C33:R67C38")
=DEFINE.NAME("NTC.NOP3.2.ENTC","=R68C33:R68C38")
=DEFINE.NAME("NTC.CT3.0.WNTC","=R22C33:R22C37")
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=DEFINE.NAME("NTC.CT3.2.WNTC","=R24C33:R24C37")
=DEFINE.NAME("NTC.CT3.0.ENTC","=R73C33:R73C38")
=DEFINE.NAME("NTC.CT3.1.ENTC","=R74C33:R74C38")
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=DEFINE.NAME("NTC.MM3.2.WNTC","=R31C33:R31C37")
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=DEFINE.NAME("NTC.MM3.1.ENTC","=R81C33:R81C38")
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=DEFINE.NAME("NTC.CHT3.2.WNTC","=R38C33:R38C37")
=DEFINE.NAME("NTC.CHT3.0.ENTC","=R87C33:R87C38")
=DEFINE.NAME("NTC.CHT3.1.ENTC","=R88C33:R88C38")
=DEFINE.NAME("NTC.CHT3.2.ENTC","=R89C33:R89C38")
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=DEFINE.NAME("NTC.MP4.2.ENTC","=R61C47:R61C52")
=DEFINE.NAME("NTC.NOP4.0.WNTC","=R15C47:R15C51")
=DEFINE.NAME("NTC.NOP4.1.WNTC","=R16C47:R16C51")
=DEFINE.NAME("NTC.NOP4.2.WNTC","=R17C47:R17C51")
=DEFINE.NAME("NTC.NOP4.0.ENTC","=R66C47:R66C52")
=DEFINE.NAME("NTC.NOP4.1.ENTC","=R67C47:R67C52")
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=DEFINE.NAME("NTC.CT4.0.WNTC","=R22C47:R22C51")
=DEFINE.NAME("NTC.CT4.1.WNTC","=R23C47:R23C51")
=DEFINE.NAME("NTC.CT4.2.WNTC","=R24C47:R24C51")
=DEFINE.NAME("NTC.CT4.0.ENTC","=R73C47:R73C52")
=DEFINE.NAME("NTC.CT4.1.ENTC","=R74C47:R74C52")
```

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=DEFINE.NAME("NTC.CT4.2.ENTC","=R75C47:R75C52")
=DEFINE.NAME("NTC.MM4.0.WNTC","=R29C47:R29C51")
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=DEFINE.NAME("NTC.MM4.2.WNTC","=R31C47:R31C51")
=DEFINE.NAME("NTC.MM4.0.ENTC","=R80C47:R80C52")
=DEFINE.NAME("NTC.MM4.1.ENTC","=R81C47:R81C52")
=DEFINE.NAME("NTC.MM4.2.ENTC","=R82C47:R82C52")
=DEFINE.NAME("NTC.CHT4.0.WNTC","=R36C47:R36C51")
=DEFINE.NAME("NTC.CHT4.1.WNTC","=R37C47:R37C51")
=DEFINE.NAME("NTC.CHT4.2.WNTC","=R38C47:R38C51")
=DEFINE.NAME("NTC.CHT4.0.ENTC","=R87C47:R87C52")
=DEFINE.NAME("NTC.CHT4.1.ENTC","=R88C47:R88C52")
=DEFINE.NAME("NTC.CHT4.2.ENTC","=R89C47:R89C52")
=DEFINE.NAME("NTC.MP5.0.WNTC","=R8C61:R8C65")
=DEFINE.NAME("NTC.MP5.1.WNTC","=R9C61:R9C65")
=DEFINE.NAME("NTC.MP5.2.WNTC","=R10C61:R10C65")
=DEFINE.NAME("NTC.MP5.0.ENTC","=R59C61:R59C66")
=DEFINE.NAME("NTC.MP5.1.ENTC","=R60C61:R60C66")
=DEFINE.NAME("NTC.MP5.2.ENTC","=R61C61:R61C66")
=DEFINE.NAME("NTC.NOP5.0.WNTC","=R15C61:R15C65")
=DEFINE.NAME("NTC.NOP5.1.WNTC","=R16C61:R16C65")
=DEFINE.NAME("NTC.NOP5.2.WNTC","=R17C61:R17C65")
=DEFINE.NAME("NTC.NOP5.0.ENTC","=R66C61:R66C66")
=DEFINE.NAME("NTC.NOP5.1.ENTC","=R67C61:R67C66")
=DEFINE.NAME("NTC.NOP5.2.ENTC","=R68C61:R68C66")
=DEFINE.NAME("NTC.CT5.0.WNTC","=R22C61:R22C65")
=DEFINE.NAME("NTC.CT5.1.WNTC","=R23C61:R23C65")
=DEFINE.NAME("NTC.CT5.2.WNTC","=R24C61:R24C65")
=DEFINE.NAME("NTC.CT5.0.ENTC","=R73C61:R73C66")
=DEFINE.NAME("NTC.CT5.1.ENTC","=R74C61:R74C66")
=DEFINE.NAME("NTC.CT5.2.ENTC","=R75C61:R75C66")
=DEFINE.NAME("NTC.MM5.0.WNTC","=R29C61:R29C65")
=DEFINE.NAME("NTC.MM5.1.WNTC","=R30C61:R30C65")
=DEFINE.NAME("NTC.MM5.2.WNTC","=R31C61:R31C65")
=DEFINE.NAME("NTC.MM5.0.ENTC","=R80C61:R80C66")
=DEFINE.NAME("NTC.MM5.1.ENTC","=R81C61:R81C66")
=DEFINE.NAME("NTC.MM5.2.ENTC","=R82C61:R82C66")
=DEFINE.NAME("NTC.CHT5.0.WNTC","=R36C61:R36C65")
=DEFINE.NAME("NTC.CHT5.1.WNTC","=R37C61:R37C65")
=DEFINE.NAME("NTC.CHT5.2.WNTC","=R38C61:R38C65")
=DEFINE.NAME("NTC.CHT5.0.ENTC","=R87C61:R87C66")
=DEFINE.NAME("NTC.CHT5.1.ENTC","=R88C61:R88C66")
=DEFINE.NAME("NTC.CHT5.2.ENTC","=R89C61:R89C66")
=DEFINE.NAME("NTC.MP6.0.WNTC","=R8C75:R8C79")
=DEFINE.NAME("NTC.MP6.1.WNTC","=R9C75:R9C79")
=DEFINE.NAME("NTC.MP6.2.WNTC","=R10C75:R10C79")
=DEFINE.NAME("NTC.MP6.0.ENTC","=R59C75:R59C80")
=DEFINE.NAME("NTC.MP6.1.ENTC","=R60C75:R60C80")
=DEFINE.NAME("NTC.MP6.2.ENTC","=R61C75:R61C80")
=DEFINE.NAME("NTC.NOP6.0.WNTC","=R15C75:R15C79")
=DEFINE.NAME("NTC.NOP6.1.WNTC","=R16C75:R16C79")
=DEFINE.NAME("NTC.NOP6.2.WNTC","=R17C75:R17C79")
=DEFINE.NAME("NTC.NOP6.0.ENTC","=R66C75:R66C80")
=DEFINE.NAME("NTC.NOP6.1.ENTC","=R67C75:R67C80")
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=DEFINE.NAME("NTC.CHT6.0.ENTC","=R87C75:R87C80")
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=DEFINE.NAME("NTC.CHT6.2.ENTC","=R89C75:R89C80")
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=DEFINE.NAME("NTC.NOP7.0.WNTC","=R15C89:R15C93")
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=DEFINE.NAME("NTC.NOP7.2.WNTC","=R17C89:R17C93")
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=DEFINE.NAME("NTC.CHT7.0.ENTC","=R87C89:R87C94")
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=DEFINE.NAME("NTC.MP8.2.WNTC","=R10C103:R10C107")
=DEFINE.NAME("NTC.MP8.0.ENTC","=R59C103:R59C108")
=DEFINE.NAME("NTC.MP8.1.ENTC","=R60C103:R60C108")
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=DEFINE.NAME("NTC.CT9.2.ENTC","=R75C117:R75C122")
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=DEFINE.NAME("NTC.MM9.1.WNTC","=R30C117:R30C121")
=DEFINE.NAME("NTC.MM9.2.WNTC","=R31C117:R31C121")
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=DEFINE.NAME("NTC.MM9.2.ENTC","=R82C117:R82C122")
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=DEFINE.NAME("NTC.CHT9.1.WNTC","=R37C117:R37C121")
=DEFINE.NAME("NTC.CHT9.2.WNTC","=R38C117:R38C121")
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```

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=DEFINE.NAME("NTC.NOP10.2.WNTC","=R17C131:R17C135")
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=DEFINE.NAME("NTC.CT10.1.WNTC","=R23C131:R23C135")
=DEFINE.NAME("NTC.CT10.2.WNTC","=R24C131:R24C135")
=DEFINE.NAME("NTC.CT10.0.ENTC","=R73C131:R73C136")
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=DEFINE.NAME("NTC.CT10.2.ENTC","=R75C131:R75C136")
=DEFINE.NAME("NTC.MM10.0.WNTC","=R29C131:R29C135")
=DEFINE.NAME("NTC.MM10.1.WNTC","=R30C131:R30C135")
=DEFINE.NAME("NTC.MM10.2.WNTC","=R31C131:R31C135")
=DEFINE.NAME("NTC.MM10.0.ENTC","=R80C131:R80C136")
=DEFINE.NAME("NTC.MM10.1.ENTC","=R81C131:R81C136")
=DEFINE.NAME("NTC.MM10.2.ENTC","=R82C131:R82C136")
=DEFINE.NAME("NTC.CHT10.0.WNTC","=R36C131:R36C135")
=DEFINE.NAME("NTC.CHT10.1.WNTC","=R37C131:R37C135")
=DEFINE.NAME("NTC.CHT10.2.WNTC","=R38C131:R38C135")
=DEFINE.NAME("NTC.CHT10.0.ENTC","=R87C131:R87C136")
=DEFINE.NAME("NTC.CHT10.1.ENTC","=R88C131:R88C136")
=DEFINE.NAME("NTC.CHT10.2.ENTC","=R89C131:R89C136")
=DEFINE.NAME("NTC.MP11.0.WNTC","=R8C145:R8C149")
=DEFINE.NAME("NTC.MP11.1.WNTC","=R9C145:R9C149")
=DEFINE.NAME("NTC.MP11.2.WNTC","=R10C145:R10C149")
=DEFINE.NAME("NTC.MP11.0.ENTC","=R59C145:R59C150")
=DEFINE.NAME("NTC.MP11.1.ENTC","=R60C145:R60C150")
=DEFINE.NAME("NTC.MP11.2.ENTC","=R61C145:R61C150")
=DEFINE.NAME("NTC.NOP11.0.WNTC","=R15C145:R15C149")
=DEFINE.NAME("NTC.NOP11.1.WNTC","=R16C145:R16C149")
=DEFINE.NAME("NTC.NOP11.2.WNTC","=R17C145:R17C149")
=DEFINE.NAME("NTC.NOP11.0.ENTC","=R66C145:R66C150")
=DEFINE.NAME("NTC.NOP11.1.ENTC","=R67C145:R67C150")
=DEFINE.NAME("NTC.NOP11.2.ENTC","=R68C145:R68C150")
=DEFINE.NAME("NTC.CT11.0.WNTC","=R22C145:R22C149")
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=DEFINE.NAME("NTC.CT11.2.WNTC","=R24C145:R24C149")
=DEFINE.NAME("NTC.CT11.0.ENTC","=R73C145:R73C150")
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=DEFINE.NAME("NTC.MM11.0.WNTC","=R29C145:R29C149")
=DEFINE.NAME("NTC.MM11.1.WNTC","=R30C145:R30C149")
=DEFINE.NAME("NTC.MM11.2.WNTC","=R31C145:R31C149")
=DEFINE.NAME("NTC.MM11.0.ENTC","=R80C145:R80C150")
=DEFINE.NAME("NTC.MM11.1.ENTC","=R81C145:R81C150")
```

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=DEFINE.NAME("NTC.MM11.2.ENTC","=R82C145:R82C150")
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=DEFINE.NAME("NTC.CHT11.1.WNTC","=R37C145:R37C149")
=DEFINE.NAME("NTC.CHT11.2.WNTC","=R38C145:R38C149")
=DEFINE.NAME("NTC.CHT11.0.ENTC","=R87C145:R87C150")
=DEFINE.NAME("NTC.CHT11.1.ENTC","=R88C145:R88C150")
=DEFINE.NAME("NTC.CHT11.2.ENTC","=R89C145:R89C150")
=RETURN()
```

MakeNTCLinks

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=SELECT(!NTC.MP1.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP1.WNTC0)")
=SELECT(!NTC.MP1.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP2.WNTC1)")
=SELECT(!NTC.MP1.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP3.WNTC2)")
=SELECT(!NTC.MP1.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP1.ENTC0)")
=SELECT(!NTC.MP1.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP2.ENTC1)")
=SELECT(!NTC.MP1.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP3.ENTC2)")
=SELECT(!NTC.NOP1.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP1.WNTC0)")
=SELECT(!NTC.NOP1.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP2.WNTC1)")
=SELECT(!NTC.NOP1.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP3.WNTC2)")
=SELECT(!NTC.NOP1.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP1.ENTC0)")
=SELECT(!NTC.NOP1.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP2.ENTC1)")
=SELECT(!NTC.NOP1.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP3.ENTC2)")
=SELECT(!NTC.CT1.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT1.WNTC0)")
=SELECT(!NTC.CT1.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT2.WNTC1)")
=SELECT(!NTC.CT1.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT3.WNTC2)")
=SELECT(!NTC.CT1.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT1.ENTC0)")
=SELECT(!NTC.CT1.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT2.ENTC1)")
=SELECT(!NTC.CT1.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT3.ENTC2)")
=SELECT(!NTC.MM1.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM1.WNTC0)")
=SELECT(!NTC.MM1.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM2.WNTC1)")
=SELECT(!NTC.MM1.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM3.WNTC2)")
=SELECT(!NTC.MM1.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM1.ENTC0)")
=SELECT(!NTC.MM1.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM2.ENTC1)")
=SELECT(!NTC.MM1.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM3.ENTC2)")
=SELECT(!NTC.CHT1.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT1.WNTC0)")
=SELECT(!NTC.CHT1.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT2.WNTC1)")
=SELECT(!NTC.CHT1.2.WNTC)
```

```
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT3.WNTC2)")
=SELECT(!NTC.CHT1.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT1.ENTC0)")
=SELECT(!NTC.CHT1.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT2.ENTC1)")
=SELECT(!NTC.CHT1.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT3.ENTC2)")
=SELECT(!NTC.MP2.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP2.WNTC0)")
=SELECT(!NTC.MP2.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP3.WNTC1)")
=SELECT(!NTC.MP2.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP4.WNTC2)")
=SELECT(!NTC.MP2.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP2.ENTC0)")
=SELECT(!NTC.MP2.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP3.ENTC1)")
=SELECT(!NTC.MP2.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP4.ENTC2)")
=SELECT(!NTC.NOP2.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP2.WNTC0)")
=SELECT(!NTC.NOP2.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP3.WNTC1)")
=SELECT(!NTC.NOP2.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP4.WNTC2)")
=SELECT(!NTC.NOP2.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP2.ENTC0)")
=SELECT(!NTC.NOP2.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP3.ENTC1)")
=SELECT(!NTC.NOP2.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP4.ENTC2)")
=SELECT(!NTC.CT2.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT2.WNTC0)")
=SELECT(!NTC.CT2.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT3.WNTC1)")
=SELECT(!NTC.CT2.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT4.WNTC2)")
=SELECT(!NTC.CT2.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT2.ENTC0)")
=SELECT(!NTC.CT2.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT3.ENTC1)")
=SELECT(!NTC.CT2.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT4.ENTC2)")
=SELECT(!NTC.MM2.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM2.WNTC0)")
=SELECT(!NTC.MM2.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM3.WNTC1)")
=SELECT(!NTC.MM2.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM4.WNTC2)")
=SELECT(!NTC.MM2.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM2.ENTC0)")
=SELECT(!NTC.MM2.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM3.ENTC1)")
=SELECT(!NTC.MM2.2.ENTC)
```

```
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM4.ENTC2)")
=SELECT(!NTC.CHT2.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT2.WNTC0)")
=SELECT(!NTC.CHT2.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT3.WNTC1)")
=SELECT(!NTC.CHT2.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT4.WNTC2)")
=SELECT(!NTC.CHT2.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT2.ENTC0)")
=SELECT(!NTC.CHT2.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT3.ENTC1)")
=SELECT(!NTC.CHT2.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT4.ENTC2)")
=SELECT(!NTC.MP3.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP3.WNTC0)")
=SELECT(!NTC.MP3.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP4.WNTC1)")
=SELECT(!NTC.MP3.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP5.WNTC2)")
=SELECT(!NTC.MP3.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP3.ENTC0)")
=SELECT(!NTC.MP3.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP4.ENTC1)")
=SELECT(!NTC.MP3.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP5.ENTC2)")
=SELECT(!NTC.NOP3.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP3.WNTC0)")
=SELECT(!NTC.NOP3.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP4.WNTC1)")
=SELECT(!NTC.NOP3.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP5.WNTC2)")
=SELECT(!NTC.NOP3.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP3.ENTC0)")
=SELECT(!NTC.NOP3.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP4.ENTC1)")
=SELECT(!NTC.NOP3.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP5.ENTC2)")
=SELECT(!NTC.CT3.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT3.WNTC0)")
=SELECT(!NTC.CT3.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT4.WNTC1)")
=SELECT(!NTC.CT3.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT5.WNTC2)")
=SELECT(!NTC.CT3.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT3.ENTC0)")
=SELECT(!NTC.CT3.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT4.ENTC1)")
=SELECT(!NTC.CT3.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT5.ENTC2)")
=SELECT(!NTC.MM3.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM3.WNTC0)")
=SELECT(!NTC.MM3.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM4.WNTC1)")
=SELECT(!NTC.MM3.2.WNTC)
```

```
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM5.WNTC2)")
=SELECT(!NTC.MM3.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM3.ENTC0)")
=SELECT(!NTC.MM3.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM4.ENTC1)")
=SELECT(!NTC.MM3.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM5.ENTC2)")
=SELECT(!NTC.CHT3.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT3.WNTC0)")
=SELECT(!NTC.CHT3.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT4.WNTC1)")
=SELECT(!NTC.CHT3.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT5.WNTC2)")
=SELECT(!NTC.CHT3.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT3.ENTC0)")
=SELECT(!NTC.CHT3.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT4.ENTC1)")
=SELECT(!NTC.CHT3.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT5.ENTC2)")
=SELECT(!NTC.MP4.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP4.WNTC0)")
=SELECT(!NTC.MP4.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP5.WNTC1)")
=SELECT(!NTC.MP4.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP6.WNTC2)")
=SELECT(!NTC.MP4.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP4.ENTC0)")
=SELECT(!NTC.MP4.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP5.ENTC1)")
=SELECT(!NTC.MP4.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP6.ENTC2)")
=SELECT(!NTC.NOP4.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP4.WNTC0)")
=SELECT(!NTC.NOP4.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP5.WNTC1)")
=SELECT(!NTC.NOP4.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP6.WNTC2)")
=SELECT(!NTC.NOP4.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP4.ENTC0)")
=SELECT(!NTC.NOP4.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP5.ENTC1)")
=SELECT(!NTC.NOP4.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP6.ENTC2)")
=SELECT(!NTC.CT4.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT4.WNTC0)")
=SELECT(!NTC.CT4.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT5.WNTC1)")
=SELECT(!NTC.CT4.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT6.WNTC2)")
=SELECT(!NTC.CT4.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT4.ENTC0)")
=SELECT(!NTC.CT4.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT5.ENTC1)")
=SELECT(!NTC.CT4.2.ENTC)
```

```
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT6.ENTC2)")
=SELECT(!NTC.MM4.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM4.WNTC0)")
=SELECT(!NTC.MM4.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM5.WNTC1)")
=SELECT(!NTC.MM4.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM6.WNTC2)")
=SELECT(!NTC.MM4.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM4.ENTC0)")
=SELECT(!NTC.MM4.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM5.ENTC1)")
=SELECT(!NTC.MM4.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM6.ENTC2)")
=SELECT(!NTC.CHT4.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT4.WNTC0)")
=SELECT(!NTC.CHT4.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT5.WNTC1)")
=SELECT(!NTC.CHT4.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT6.WNTC2)")
=SELECT(!NTC.CHT4.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT4.ENTC0)")
=SELECT(!NTC.CHT4.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT5.ENTC1)")
=SELECT(!NTC.CHT4.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT6.ENTC2)")
=SELECT(!NTC.MP5.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP5.WNTC0)")
=SELECT(!NTC.MP5.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP6.WNTC1)")
=SELECT(!NTC.MP5.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP7.WNTC2)")
=SELECT(!NTC.MP5.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP5.ENTC0)")
=SELECT(!NTC.MP5.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP6.ENTC1)")
=SELECT(!NTC.MP5.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP7.ENTC2)")
=SELECT(!NTC.NOP5.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP5.WNTC0)")
=SELECT(!NTC.NOP5.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP6.WNTC1)")
=SELECT(!NTC.NOP5.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP7.WNTC2)")
=SELECT(!NTC.NOP5.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP5.ENTC0)")
=SELECT(!NTC.NOP5.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP6.ENTC1)")
=SELECT(!NTC.NOP5.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP7.ENTC2)")
=SELECT(!NTC.CT5.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT5.WNTC0)")
=SELECT(!NTC.CT5.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT6.WNTC1)")
=SELECT(!NTC.CT5.2.WNTC)
```

```
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT7.WNTC2)")
=SELECT(!NTC.CT5.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT5.ENTC0)")
=SELECT(!NTC.CT5.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT6.ENTC1)")
=SELECT(!NTC.CT5.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT7.ENTC2)")
=SELECT(!NTC.MM5.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM5.WNTC0)")
=SELECT(!NTC.MM5.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM6.WNTC1)")
=SELECT(!NTC.MM5.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM7.WNTC2)")
=SELECT(!NTC.MM5.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM5.ENTC0)")
=SELECT(!NTC.MM5.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM6.ENTC1)")
=SELECT(!NTC.MM5.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM7.ENTC2)")
=SELECT(!NTC.CHT5.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT5.WNTC0)")
=SELECT(!NTC.CHT5.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT6.WNTC1)")
=SELECT(!NTC.CHT5.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT7.WNTC2)")
=SELECT(!NTC.CHT5.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT5.ENTC0)")
=SELECT(!NTC.CHT5.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT6.ENTC1)")
=SELECT(!NTC.CHT5.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT7.ENTC2)")
=SELECT(!NTC.MP6.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP6.WNTC0)")
=SELECT(!NTC.MP6.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP7.WNTC1)")
=SELECT(!NTC.MP6.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP8.WNTC2)")
=SELECT(!NTC.MP6.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP6.ENTC0)")
=SELECT(!NTC.MP6.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP7.ENTC1)")
=SELECT(!NTC.MP6.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP8.ENTC2)")
=SELECT(!NTC.NOP6.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP6.WNTC0)")
=SELECT(!NTC.NOP6.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP7.WNTC1)")
=SELECT(!NTC.NOP6.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP8.WNTC2)")
=SELECT(!NTC.NOP6.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP6.ENTC0)")
=SELECT(!NTC.NOP6.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP7.ENTC1)")
=SELECT(!NTC.NOP6.2.ENTC)
```

```
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP8.ENTC2)")
=SELECT(!NTC.CT6.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT6.WNTC0)")
=SELECT(!NTC.CT6.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT7.WNTC1)")
=SELECT(!NTC.CT6.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT8.WNTC2)")
=SELECT(!NTC.CT6.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT6.ENTC0)")
=SELECT(!NTC.CT6.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT7.ENTC1)")
=SELECT(!NTC.CT6.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT8.ENTC2)")
=SELECT(!NTC.MM6.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM6.WNTC0)")
=SELECT(!NTC.MM6.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM7.WNTC1)")
=SELECT(!NTC.MM6.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM8.WNTC2)")
=SELECT(!NTC.MM6.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM6.ENTC0)")
=SELECT(!NTC.MM6.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM7.ENTC1)")
=SELECT(!NTC.MM6.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM8.ENTC2)")
=SELECT(!NTC.CHT6.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT6.WNTC0)")
=SELECT(!NTC.CHT6.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT7.WNTC1)")
=SELECT(!NTC.CHT6.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT8.WNTC2)")
=SELECT(!NTC.CHT6.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT6.ENTC0)")
=SELECT(!NTC.CHT6.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT7.ENTC1)")
=SELECT(!NTC.CHT6.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT8.ENTC2)")
=SELECT(!NTC.MP7.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP7.WNTC0)")
=SELECT(!NTC.MP7.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP8.WNTC1)")
=SELECT(!NTC.MP7.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP9.WNTC2)")
=SELECT(!NTC.MP7.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP7.ENTC0)")
=SELECT(!NTC.MP7.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP8.ENTC1)")
=SELECT(!NTC.MP7.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP9.ENTC2)")
=SELECT(!NTC.NOP7.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP7.WNTC0)")
=SELECT(!NTC.NOP7.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP8.WNTC1)")
=SELECT(!NTC.NOP7.2.WNTC)
```

```
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP9.WNTC2)")
=SELECT(!NTC.NOP7.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP7.ENTC0)")
=SELECT(!NTC.NOP7.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP8.ENTC1)")
=SELECT(!NTC.NOP7.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP9.ENTC2)")
=SELECT(!NTC.CT7.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT7.WNTC0)")
=SELECT(!NTC.CT7.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT8.WNTC1)")
=SELECT(!NTC.CT7.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT9.WNTC2)")
=SELECT(!NTC.CT7.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT7.ENTC0)")
=SELECT(!NTC.CT7.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT8.ENTC1)")
=SELECT(!NTC.CT7.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT9.ENTC2)")
=SELECT(!NTC.MM7.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM7.WNTC0)")
=SELECT(!NTC.MM7.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM8.WNTC1)")
=SELECT(!NTC.MM7.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM9.WNTC2)")
=SELECT(!NTC.MM7.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM7.ENTC0)")
=SELECT(!NTC.MM7.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM8.ENTC1)")
=SELECT(!NTC.MM7.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM9.ENTC2)")
=SELECT(!NTC.CHT7.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT7.WNTC0)")
=SELECT(!NTC.CHT7.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT8.WNTC1)")
=SELECT(!NTC.CHT7.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT9.WNTC2)")
=SELECT(!NTC.CHT7.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT7.ENTC0)")
=SELECT(!NTC.CHT7.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT8.ENTC1)")
=SELECT(!NTC.CHT7.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT9.ENTC2)")
=SELECT(!NTC.MP8.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP8.WNTC0)")
=SELECT(!NTC.MP8.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP9.WNTC1)")
=SELECT(!NTC.MP8.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP10.WNTC2)")
=SELECT(!NTC.MP8.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP8.ENTC0)")
=SELECT(!NTC.MP8.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP9.ENTC1)")
=SELECT(!NTC.MP8.2.ENTC)
```

```
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP10.ENTC2)")
=SELECT(!NTC.NOP8.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP8.WNTC0)")
=SELECT(!NTC.NOP8.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP9.WNTC1)")
=SELECT(!NTC.NOP8.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP10.WNTC2)")
=SELECT(!NTC.NOP8.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP8.ENTC0)")
=SELECT(!NTC.NOP8.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP9.ENTC1)")
=SELECT(!NTC.NOP8.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP10.ENTC2)")
=SELECT(!NTC.CT8.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT8.WNTC0)")
=SELECT(!NTC.CT8.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT9.WNTC1)")
=SELECT(!NTC.CT8.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT10.WNTC2)")
=SELECT(!NTC.CT8.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT8.ENTC0)")
=SELECT(!NTC.CT8.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT9.ENTC1)")
=SELECT(!NTC.CT8.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT10.ENTC2)")
=SELECT(!NTC.MM8.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM8.WNTC0)")
=SELECT(!NTC.MM8.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM9.WNTC1)")
=SELECT(!NTC.MM8.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM10.WNTC2)")
=SELECT(!NTC.MM8.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM8.ENTC0)")
=SELECT(!NTC.MM8.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM9.ENTC1)")
=SELECT(!NTC.MM8.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM10.ENTC2)")
=SELECT(!NTC.CHT8.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT8.WNTC0)")
=SELECT(!NTC.CHT8.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT9.WNTC1)")
=SELECT(!NTC.CHT8.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT10.WNTC2)")
=SELECT(!NTC.CHT8.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT8.ENTC0)")
=SELECT(!NTC.CHT8.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT9.ENTC1)")
=SELECT(!NTC.CHT8.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT10.ENTC2)")
=SELECT(!NTC.MP9.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP9.WNTC0)")
=SELECT(!NTC.MP9.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP10.WNTC1)")
=SELECT(!NTC.MP9.2.WNTC)
```

```
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP11.WNTC2)")
=SELECT(!NTC.MP9.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP9.ENTC0)")
=SELECT(!NTC.MP9.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP10.ENTC1)")
=SELECT(!NTC.MP9.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP11.ENTC2)")
=SELECT(!NTC.NOP9.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP9.WNTC0)")
=SELECT(!NTC.NOP9.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP10.WNTC1)")
=SELECT(!NTC.NOP9.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP11.WNTC2)")
=SELECT(!NTC.NOP9.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP9.ENTC0)")
=SELECT(!NTC.NOP9.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP10.ENTC1)")
=SELECT(!NTC.NOP9.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP11.ENTC2)")
=SELECT(!NTC.CT9.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT9.WNTC0)")
=SELECT(!NTC.CT9.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT10.WNTC1)")
=SELECT(!NTC.CT9.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT11.WNTC2)")
=SELECT(!NTC.CT9.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT9.ENTC0)")
=SELECT(!NTC.CT9.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT10.ENTC1)")
=SELECT(!NTC.CT9.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT11.ENTC2)")
=SELECT(!NTC.MM9.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM9.WNTC0)")
=SELECT(!NTC.MM9.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM10.WNTC1)")
=SELECT(!NTC.MM9.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM11.WNTC2)")
=SELECT(!NTC.MM9.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM9.ENTC0)")
=SELECT(!NTC.MM9.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM10.ENTC1)")
=SELECT(!NTC.MM9.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM11.ENTC2)")
=SELECT(!NTC.CHT9.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT9.WNTC0)")
=SELECT(!NTC.CHT9.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT10.WNTC1)")
=SELECT(!NTC.CHT9.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT11.WNTC2)")
=SELECT(!NTC.CHT9.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT9.ENTC0)")
=SELECT(!NTC.CHT9.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT10.ENTC1)")
=SELECT(!NTC.CHT9.2.ENTC)
```

```
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT11.ENTC2)")
=SELECT(!INTC.MP10.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP10.WNTC0)")
=SELECT(!INTC.MP10.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP11.WNTC1)")
=SELECT(!INTC.MP10.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP12.WNTC2)")
=SELECT(!INTC.MP10.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP10.ENTC0)")
=SELECT(!INTC.MP10.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP11.ENTC1)")
=SELECT(!INTC.MP10.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP12.ENTC2)")
=SELECT(!INTC.NOP10.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP10.WNTC0)")
=SELECT(!INTC.NOP10.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP11.WNTC1)")
=SELECT(!INTC.NOP10.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP12.WNTC2)")
=SELECT(!INTC.NOP10.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP10.ENTC0)")
=SELECT(!INTC.NOP10.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP11.ENTC1)")
=SELECT(!INTC.NOP10.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP12.ENTC2)")
=SELECT(!INTC.CT10.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT10.WNTC0)")
=SELECT(!INTC.CT10.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT11.WNTC1)")
=SELECT(!INTC.CT10.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT12.WNTC2)")
=SELECT(!INTC.CT10.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT10.ENTC0)")
=SELECT(!INTC.CT10.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT11.ENTC1)")
=SELECT(!INTC.CT10.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT12.ENTC2)")
=SELECT(!INTC.MM10.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM10.WNTC0)")
=SELECT(!INTC.MM10.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM11.WNTC1)")
=SELECT(!INTC.MM10.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM12.WNTC2)")
=SELECT(!INTC.MM10.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM10.ENTC0)")
=SELECT(!INTC.MM10.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM11.ENTC1)")
=SELECT(!INTC.MM10.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM12.ENTC2)")
=SELECT(!INTC.CHT10.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT10.WNTC0)")
=SELECT(!INTC.CHT10.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT11.WNTC1)")
=SELECT(!INTC.CHT10.2.WNTC)
```

```
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT12.WNTC2)")
=SELECT(!NTC.CHT10.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT10.ENTC0)")
=SELECT(!NTC.CHT10.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT11.ENTC1)")
=SELECT(!NTC.CHT10.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT12.ENTC2)")
=SELECT(!NTC.MP11.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP11.WNTC0)")
=SELECT(!NTC.MP11.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP12.WNTC1)")
=SELECT(!NTC.MP11.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP13.WNTC2)")
=SELECT(!NTC.MP11.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP11.ENTC0)")
=SELECT(!NTC.MP11.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP12.ENTC1)")
=SELECT(!NTC.MP11.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('M&P'!MP13.ENTC2)")
=SELECT(!NTC.NOP11.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP11.WNTC0)")
=SELECT(!NTC.NOP11.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP12.WNTC1)")
=SELECT(!NTC.NOP11.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP13.WNTC2)")
=SELECT(!NTC.NOP11.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP11.ENTC0)")
=SELECT(!NTC.NOP11.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP12.ENTC1)")
=SELECT(!NTC.NOP11.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('NOP'!NOP13.ENTC2)")
=SELECT(!NTC.CT11.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT11.WNTC0)")
=SELECT(!NTC.CT11.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT12.WNTC1)")
=SELECT(!NTC.CT11.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT13.WNTC2)")
=SELECT(!NTC.CT11.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT11.ENTC0)")
=SELECT(!NTC.CT11.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT12.ENTC1)")
=SELECT(!NTC.CT11.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CT'!CT13.ENTC2)")
=SELECT(!NTC.MM11.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM11.WNTC0)")
=SELECT(!NTC.MM11.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM12.WNTC1)")
=SELECT(!NTC.MM11.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM13.WNTC2)")
=SELECT(!NTC.MM11.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM11.ENTC0)")
=SELECT(!NTC.MM11.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM12.ENTC1)")
=SELECT(!NTC.MM11.2.ENTC)
```

```
=FORMULA.ARRAY("=TRANSPOSE('MM'!MM13.ENTC2)")
=SELECT(!NTC.CHT11.0.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT11.WNTC0)")
=SELECT(!NTC.CHT11.1.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT12.WNTC1)")
=SELECT(!NTC.CHT11.2.WNTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT13.WNTC2)")
=SELECT(!NTC.CHT11.0.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT11.ENTC0)")
=SELECT(!NTC.CHT11.1.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT12.ENTC1)")
=SELECT(!NTC.CHT11.2.ENTC)
=FORMULA.ARRAY("=TRANSPOSE('CHT'!CHT13.ENTC2)")
=RETURN()
```

```
DefineHireNTCRanges
=DEFINE.NAME("NTC.MP1.T.WNTC","=R8C11:R11C11")
=DEFINE.NAME("NTC.MP1.T.ENTC","=R59C11:R61C11")
=DEFINE.NAME("NTC.NOP1.T.WNTC","=R15C11:R17C11")
=DEFINE.NAME("NTC.NOP1.T.ENTC","=R66C11:R68C11")
=DEFINE.NAME("NTC.CT1.T.WNTC","=R22C11:R24C11")
=DEFINE.NAME("NTC.CT1.T.ENTC","=R73C11:R75C11")
=DEFINE.NAME("NTC.MM1.T.WNTC","=R29C11:R31C11")
=DEFINE.NAME("NTC.MM1.T.ENTC","=R80C11:R82C11")
=DEFINE.NAME("NTC.CHT1.T.WNTC","=R36C11:R38C11")
=DEFINE.NAME("NTC.CHT1.T.ENTC","=R87C11:R89C11")
=DEFINE.NAME("NTC.MP2.T.WNTC","=R8C25:R11C25")
=DEFINE.NAME("NTC.MP2.T.ENTC","=R59C25:R61C25")
=DEFINE.NAME("NTC.NOP2.T.WNTC","=R15C25:R17C25")
=DEFINE.NAME("NTC.NOP2.T.ENTC","=R66C25:R68C25")
=DEFINE.NAME("NTC.CT2.T.WNTC","=R22C25:R24C25")
=DEFINE.NAME("NTC.CT2.T.ENTC","=R73C25:R75C25")
=DEFINE.NAME("NTC.MM2.T.WNTC","=R29C25:R31C25")
=DEFINE.NAME("NTC.MM2.T.ENTC","=R80C25:R82C25")
=DEFINE.NAME("NTC.CHT2.T.WNTC","=R36C25:R38C25")
=DEFINE.NAME("NTC.CHT2.T.ENTC","=R87C25:R89C25")
=DEFINE.NAME("NTC.MP3.T.WNTC","=R8C39:R11C39")
=DEFINE.NAME("NTC.MP3.T.ENTC","=R59C39:R61C39")
=DEFINE.NAME("NTC.NOP3.T.WNTC","=R15C39:R17C39")
=DEFINE.NAME("NTC.NOP3.T.ENTC","=R66C39:R68C39")
=DEFINE.NAME("NTC.CT3.T.WNTC","=R22C39:R24C39")
=DEFINE.NAME("NTC.CT3.T.ENTC","=R73C39:R75C39")
=DEFINE.NAME("NTC.MM3.T.WNTC","=R29C39:R31C39")
=DEFINE.NAME("NTC.MM3.T.ENTC","=R80C39:R82C39")
=DEFINE.NAME("NTC.CHT3.T.WNTC","=R36C39:R38C39")
=DEFINE.NAME("NTC.CHT3.T.ENTC","=R87C39:R89C39")
=DEFINE.NAME("NTC.MP4.T.WNTC","=R8C53:R11C53")
=DEFINE.NAME("NTC.MP4.T.ENTC","=R59C53:R61C53")
=DEFINE.NAME("NTC.NOP4.T.WNTC","=R15C53:R17C53")
=DEFINE.NAME("NTC.NOP4.T.ENTC","=R66C53:R68C53")
=DEFINE.NAME("NTC.CT4.T.WNTC","=R22C53:R24C53")
=DEFINE.NAME("NTC.CT4.T.ENTC","=R73C53:R75C53")
=DEFINE.NAME("NTC.MM4.T.WNTC","=R29C53:R31C53")
=DEFINE.NAME("NTC.MM4.T.ENTC","=R80C53:R82C53")
=DEFINE.NAME("NTC.CHT4.T.WNTC","=R36C53:R38C53")
=DEFINE.NAME("NTC.CHT4.T.ENTC","=R87C53:R89C53")
=DEFINE.NAME("NTC.MP5.T.WNTC","=R8C67:R11C67")
=DEFINE.NAME("NTC.MP5.T.ENTC","=R59C67:R61C67")
=DEFINE.NAME("NTC.NOP5.T.WNTC","=R15C67:R17C67")
=DEFINE.NAME("NTC.NOP5.T.ENTC","=R66C67:R68C67")
=DEFINE.NAME("NTC.CT5.T.WNTC","=R22C67:R24C67")
=DEFINE.NAME("NTC.CT5.T.ENTC","=R73C67:R75C67")
=DEFINE.NAME("NTC.MM5.T.WNTC","=R29C67:R31C67")
=DEFINE.NAME("NTC.MM5.T.ENTC","=R80C67:R82C67")
=DEFINE.NAME("NTC.CHT5.T.WNTC","=R36C67:R38C67")
=DEFINE.NAME("NTC.CHT5.T.ENTC","=R87C67:R89C67")
=DEFINE.NAME("NTC.MP6.T.WNTC","=R8C81:R11C81")
=DEFINE.NAME("NTC.MP6.T.ENTC","=R59C81:R61C81")
=DEFINE.NAME("NTC.NOP6.T.WNTC","=R15C81:R17C81")
```

```
=DEFINE.NAME("NTC.NOP6.T.ENTC","=R66C81:R68C81")
=DEFINE.NAME("NTC.CT6.T.WNTC","=R22C81:R24C81")
=DEFINE.NAME("NTC.CT6.T.ENTC","=R73C81:R75C81")
=DEFINE.NAME("NTC.MM6.T.WNTC","=R29C81:R31C81")
=DEFINE.NAME("NTC.MM6.T.ENTC","=R80C81:R82C81")
=DEFINE.NAME("NTC.CHT6.T.WNTC","=R36C81:R38C81")
=DEFINE.NAME("NTC.CHT6.T.ENTC","=R87C81:R89C81")
=DEFINE.NAME("NTC.MP7.T.WNTC","=R8C95:R11C95")
=DEFINE.NAME("NTC.MP7.T.ENTC","=R59C95:R61C95")
=DEFINE.NAME("NTC.NOP7.T.WNTC","=R15C95:R17C95")
=DEFINE.NAME("NTC.NOP7.T.ENTC","=R66C95:R68C95")
=DEFINE.NAME("NTC.CT7.T.WNTC","=R22C95:R24C95")
=DEFINE.NAME("NTC.CT7.T.ENTC","=R73C95:R75C95")
=DEFINE.NAME("NTC.MM7.T.WNTC","=R29C95:R31C95")
=DEFINE.NAME("NTC.MM7.T.ENTC","=R80C95:R82C95")
=DEFINE.NAME("NTC.CHT7.T.WNTC","=R36C95:R38C95")
=DEFINE.NAME("NTC.CHT7.T.ENTC","=R87C95:R89C95")
=DEFINE.NAME("NTC.MP8.T.WNTC","=R8C109:R11C109")
=DEFINE.NAME("NTC.MP8.T.ENTC","=R59C109:R61C109")
=DEFINE.NAME("NTC.NOP8.T.WNTC","=R15C109:R17C109")
=DEFINE.NAME("NTC.NOP8.T.ENTC","=R66C109:R68C109")
=DEFINE.NAME("NTC.CT8.T.WNTC","=R22C109:R24C109")
=DEFINE.NAME("NTC.CT8.T.ENTC","=R73C109:R75C109")
=DEFINE.NAME("NTC.MM8.T.WNTC","=R29C109:R31C109")
=DEFINE.NAME("NTC.MM8.T.ENTC","=R80C109:R82C109")
=DEFINE.NAME("NTC.CHT8.T.WNTC","=R36C109:R38C109")
=DEFINE.NAME("NTC.CHT8.T.ENTC","=R87C109:R89C109")
=DEFINE.NAME("NTC.MP9.T.WNTC","=R8C123:R11C123")
=DEFINE.NAME("NTC.MP9.T.ENTC","=R59C123:R61C123")
=DEFINE.NAME("NTC.NOP9.T.WNTC","=R15C123:R17C123")
=DEFINE.NAME("NTC.NOP9.T.ENTC","=R66C123:R68C123")
=DEFINE.NAME("NTC.CT9.T.WNTC","=R22C123:R24C123")
=DEFINE.NAME("NTC.CT9.T.ENTC","=R73C123:R75C123")
=DEFINE.NAME("NTC.MM9.T.WNTC","=R29C123:R31C123")
=DEFINE.NAME("NTC.MM9.T.ENTC","=R80C123:R82C123")
=DEFINE.NAME("NTC.CHT9.T.WNTC","=R36C123:R38C123")
=DEFINE.NAME("NTC.CHT9.T.ENTC","=R87C123:R89C123")
=DEFINE.NAME("NTC.MP10.T.WNTC","=R8C137:R11C137")
=DEFINE.NAME("NTC.MP10.T.ENTC","=R59C137:R61C137")
=DEFINE.NAME("NTC.NOP10.T.WNTC","=R15C137:R17C137")
=DEFINE.NAME("NTC.NOP10.T.ENTC","=R66C137:R68C137")
=DEFINE.NAME("NTC.CT10.T.WNTC","=R22C137:R24C137")
=DEFINE.NAME("NTC.CT10.T.ENTC","=R73C137:R75C137")
=DEFINE.NAME("NTC.MM10.T.WNTC","=R29C137:R31C137")
=DEFINE.NAME("NTC.MM10.T.ENTC","=R80C137:R82C137")
=DEFINE.NAME("NTC.CHT10.T.WNTC","=R36C137:R38C137")
=DEFINE.NAME("NTC.CHT10.T.ENTC","=R87C137:R89C137")
=RETURN()
```

2.4.4. HIRE Macros

The HIRE Macros worksheet contains a macro which defines range names in the HIRE worksheet to be used internally, as well as a macro which specifies the link formulas to link to the NTC worksheet.

DefineHireRanges	This macro is executed from the HIRE worksheet; that is, the HIRE worksheet is the active worksheet. It defines the range names used internally by the HIRE worksheet.
MakeHireLinks	This macro is executed from the HIRE worksheet; that is, the HIRE worksheet is the active worksheet. It specifies the link formulas which link the HIRE worksheet to the NTC worksheet.

```
DefineHireRanges
=DEFINE.NAME("Hire.MP1","=R17C2:R19C2")
=DEFINE.NAME("Hire.NOP1","=R23C2:R25C2")
=DEFINE.NAME("Hire.CT1","=R29C2:R31C2")
=DEFINE.NAME("Hire.MM1","=R35C2:R37C2")
=DEFINE.NAME("Hire.CHT1","=R41C2:R43C2")
=DEFINE.NAME("Hire.MP2","=R17C3:R19C3")
=DEFINE.NAME("Hire.NOP2","=R23C3:R25C3")
=DEFINE.NAME("Hire.CT2","=R29C3:R31C3")
=DEFINE.NAME("Hire.MM2","=R35C3:R37C3")
=DEFINE.NAME("Hire.CHT2","=R41C3:R43C3")
=DEFINE.NAME("Hire.MP3","=R17C4:R19C4")
=DEFINE.NAME("Hire.NOP3","=R23C4:R25C4")
=DEFINE.NAME("Hire.CT3","=R29C4:R31C4")
=DEFINE.NAME("Hire.MM3","=R35C4:R37C4")
=DEFINE.NAME("Hire.CHT3","=R41C4:R43C4")
=DEFINE.NAME("Hire.MP4","=R17C5:R19C5")
=DEFINE.NAME("Hire.NOP4","=R23C5:R25C5")
=DEFINE.NAME("Hire.CT4","=R29C5:R31C5")
=DEFINE.NAME("Hire.MM4","=R35C5:R37C5")
=DEFINE.NAME("Hire.CHT4","=R41C5:R43C5")
=DEFINE.NAME("Hire.MP5","=R17C6:R19C6")
=DEFINE.NAME("Hire.NOP5","=R23C6:R25C6")
=DEFINE.NAME("Hire.CT5","=R29C6:R31C6")
=DEFINE.NAME("Hire.MM5","=R35C6:R37C6")
=DEFINE.NAME("Hire.CHT5","=R41C6:R43C6")
=DEFINE.NAME("Hire.MP6","=R17C7:R19C7")
=DEFINE.NAME("Hire.NOP6","=R23C7:R25C7")
=DEFINE.NAME("Hire.CT6","=R29C7:R31C7")
=DEFINE.NAME("Hire.MM6","=R35C7:R37C7")
=DEFINE.NAME("Hire.CHT6","=R41C7:R43C7")
=DEFINE.NAME("Hire.MP7","=R17C8:R19C8")
=DEFINE.NAME("Hire.NOP7","=R23C8:R25C8")
=DEFINE.NAME("Hire.CT7","=R29C8:R31C8")
=DEFINE.NAME("Hire.MM7","=R35C8:R37C8")
=DEFINE.NAME("Hire.CHT7","=R41C8:R43C8")
=DEFINE.NAME("Hire.MP8","=R17C9:R19C9")
=DEFINE.NAME("Hire.NOP8","=R23C9:R25C9")
=DEFINE.NAME("Hire.CT8","=R29C9:R31C9")
=DEFINE.NAME("Hire.MM8","=R35C9:R37C9")
=DEFINE.NAME("Hire.CHT8","=R41C9:R43C9")
=DEFINE.NAME("Hire.MP9","=R17C10:R19C10")
=DEFINE.NAME("Hire.NOP9","=R23C10:R25C10")
=DEFINE.NAME("Hire.CT9","=R29C10:R31C10")
=DEFINE.NAME("Hire.MM9","=R35C10:R37C10")
=DEFINE.NAME("Hire.CHT9","=R41C10:R43C10")
=DEFINE.NAME("Hire.MP10","=R17C11:R19C11")
=DEFINE.NAME("Hire.NOP10","=R23C11:R25C11")
=DEFINE.NAME("Hire.CT10","=R29C11:R31C11")
=DEFINE.NAME("Hire.MM10","=R35C11:R37C11")
=DEFINE.NAME("Hire.CHT10","=R41C11:R43C11")
=RETURN()
```

```
MakeHireLinks
=SELECT(!Hire.MP1)
=FORMULA.ARRAY("=('NTC'!NTC.MP1.T.WNTC+'NTC'!NTC.MP1.T.ENTC)")
=SELECT(!Hire.NOP1)
=FORMULA.ARRAY("=('NTC'!NTC.NOP1.T.WNTC+'NTC'!NTC.NOP1.T.ENTC)")
=SELECT(!Hire.CT1)
=FORMULA.ARRAY("=('NTC'!NTC.CT1.T.WNTC+'NTC'!NTC.CT1.T.ENTC)")
=SELECT(!Hire.MM1)
=FORMULA.ARRAY("=('NTC'!NTC.MM1.T.WNTC+'NTC'!NTC.MM1.T.ENTC)")
=SELECT(!Hire.CHT1)
=FORMULA.ARRAY("=('NTC'!NTC.CHT1.T.WNTC+'NTC'!NTC.CHT1.T.ENTC)")
=SELECT(!Hire.MP2)
=FORMULA.ARRAY("=('NTC'!NTC.MP2.T.WNTC+'NTC'!NTC.MP2.T.ENTC)")
=SELECT(!Hire.NOP2)
=FORMULA.ARRAY("=('NTC'!NTC.NOP2.T.WNTC+'NTC'!NTC.NOP2.T.ENTC)")
=SELECT(!Hire.CT2)
=FORMULA.ARRAY("=('NTC'!NTC.CT2.T.WNTC+'NTC'!NTC.CT2.T.ENTC)")
=SELECT(!Hire.MM2)
=FORMULA.ARRAY("=('NTC'!NTC.MM2.T.WNTC+'NTC'!NTC.MM2.T.ENTC)")
=SELECT(!Hire.CHT2)
=FORMULA.ARRAY("=('NTC'!NTC.CHT2.T.WNTC+'NTC'!NTC.CHT2.T.ENTC)")
=SELECT(!Hire.MP3)
=FORMULA.ARRAY("=('NTC'!NTC.MP3.T.WNTC+'NTC'!NTC.MP3.T.ENTC)")
=SELECT(!Hire.NOP3)
=FORMULA.ARRAY("=('NTC'!NTC.NOP3.T.WNTC+'NTC'!NTC.NOP3.T.ENTC)")
=SELECT(!Hire.CT3)
=FORMULA.ARRAY("=('NTC'!NTC.CT3.T.WNTC+'NTC'!NTC.CT3.T.ENTC)")
=SELECT(!Hire.MM3)
=FORMULA.ARRAY("=('NTC'!NTC.MM3.T.WNTC+'NTC'!NTC.MM3.T.ENTC)")
=SELECT(!Hire.CHT3)
=FORMULA.ARRAY("=('NTC'!NTC.CHT3.T.WNTC+'NTC'!NTC.CHT3.T.ENTC)")
=SELECT(!Hire.MP4)
=FORMULA.ARRAY("=('NTC'!NTC.MP4.T.WNTC+'NTC'!NTC.MP4.T.ENTC)")
=SELECT(!Hire.NOP4)
=FORMULA.ARRAY("=('NTC'!NTC.NOP4.T.WNTC+'NTC'!NTC.NOP4.T.ENTC)")
=SELECT(!Hire.CT4)
=FORMULA.ARRAY("=('NTC'!NTC.CT4.T.WNTC+'NTC'!NTC.CT4.T.ENTC)")
=SELECT(!Hire.MM4)
=FORMULA.ARRAY("=('NTC'!NTC.MM4.T.WNTC+'NTC'!NTC.MM4.T.ENTC)")
=SELECT(!Hire.CHT4)
=FORMULA.ARRAY("=('NTC'!NTC.CHT4.T.WNTC+'NTC'!NTC.CHT4.T.ENTC)")
=SELECT(!Hire.MP5)
=FORMULA.ARRAY("=('NTC'!NTC.MP5.T.WNTC+'NTC'!NTC.MP5.T.ENTC)")
=SELECT(!Hire.NOP5)
=FORMULA.ARRAY("=('NTC'!NTC.NOP5.T.WNTC+'NTC'!NTC.NOP5.T.ENTC)")
=SELECT(!Hire.CT5)
=FORMULA.ARRAY("=('NTC'!NTC.CT5.T.WNTC+'NTC'!NTC.CT5.T.ENTC)")
=SELECT(!Hire.MM5)
=FORMULA.ARRAY("=('NTC'!NTC.MM5.T.WNTC+'NTC'!NTC.MM5.T.ENTC)")
=SELECT(!Hire.CHT5)
=FORMULA.ARRAY("=('NTC'!NTC.CHT5.T.WNTC+'NTC'!NTC.CHT5.T.ENTC)")
=SELECT(!Hire.MP6)
=FORMULA.ARRAY("=('NTC'!NTC.MP6.T.WNTC+'NTC'!NTC.MP6.T.ENTC)")
=SELECT(!Hire.NOP6)
```

```
=FORMULA.ARRAY("=('NTC'!NTC.NOP6.T.WNTC+'NTC'!NTC.NOP6.T.ENTC)")
=SELECT(!Hire.CT6)
=FORMULA.ARRAY("=('NTC'!NTC.CT6.T.WNTC+'NTC'!NTC.CT6.T.ENTC)")
=SELECT(!Hire.MM6)
=FORMULA.ARRAY("=('NTC'!NTC.MM6.T.WNTC+'NTC'!NTC.MM6.T.ENTC)")
=SELECT(!Hire.CHT6)
=FORMULA.ARRAY("=('NTC'!NTC.CHT6.T.WNTC+'NTC'!NTC.CHT6.T.ENTC)")
=SELECT(!Hire.MP7)
=FORMULA.ARRAY("=('NTC'!NTC.MP7.T.WNTC+'NTC'!NTC.MP7.T.ENTC)")
=SELECT(!Hire.NOP7)
=FORMULA.ARRAY("=('NTC'!NTC.NOP7.T.WNTC+'NTC'!NTC.NOP7.T.ENTC)")
=SELECT(!Hire.CT7)
=FORMULA.ARRAY("=('NTC'!NTC.CT7.T.WNTC+'NTC'!NTC.CT7.T.ENTC)")
=SELECT(!Hire.MM7)
=FORMULA.ARRAY("=('NTC'!NTC.MM7.T.WNTC+'NTC'!NTC.MM7.T.ENTC)")
=SELECT(!Hire.CHT7)
=FORMULA.ARRAY("=('NTC'!NTC.CHT7.T.WNTC+'NTC'!NTC.CHT7.T.ENTC)")
=SELECT(!Hire.MP8)
=FORMULA.ARRAY("=('NTC'!NTC.MP8.T.WNTC+'NTC'!NTC.MP8.T.ENTC)")
=SELECT(!Hire.NOP8)
=FORMULA.ARRAY("=('NTC'!NTC.NOP8.T.WNTC+'NTC'!NTC.NOP8.T.ENTC)")
=SELECT(!Hire.CT8)
=FORMULA.ARRAY("=('NTC'!NTC.CT8.T.WNTC+'NTC'!NTC.CT8.T.ENTC)")
=SELECT(!Hire.MM8)
=FORMULA.ARRAY("=('NTC'!NTC.MM8.T.WNTC+'NTC'!NTC.MM8.T.ENTC)")
=SELECT(!Hire.CHT8)
=FORMULA.ARRAY("=('NTC'!NTC.CHT8.T.WNTC+'NTC'!NTC.CHT8.T.ENTC)")
=SELECT(!Hire.MP9)
=FORMULA.ARRAY("=('NTC'!NTC.MP9.T.WNTC+'NTC'!NTC.MP9.T.ENTC)")
=SELECT(!Hire.NOP9)
=FORMULA.ARRAY("=('NTC'!NTC.NOP9.T.WNTC+'NTC'!NTC.NOP9.T.ENTC)")
=SELECT(!Hire.CT9)
=FORMULA.ARRAY("=('NTC'!NTC.CT9.T.WNTC+'NTC'!NTC.CT9.T.ENTC)")
=SELECT(!Hire.MM9)
=FORMULA.ARRAY("=('NTC'!NTC.MM9.T.WNTC+'NTC'!NTC.MM9.T.ENTC)")
=SELECT(!Hire.CHT9)
=FORMULA.ARRAY("=('NTC'!NTC.CHT9.T.WNTC+'NTC'!NTC.CHT9.T.ENTC)")
=SELECT(!Hire.MP10)
=FORMULA.ARRAY("=('NTC'!NTC.MP10.T.WNTC+'NTC'!NTC.MP10.T.ENTC)")
=SELECT(!Hire.NOP10)
=FORMULA.ARRAY("=('NTC'!NTC.NOP10.T.WNTC+'NTC'!NTC.NOP10.T.ENTC)")
=SELECT(!Hire.CT10)
=FORMULA.ARRAY("=('NTC'!NTC.CT10.T.WNTC+'NTC'!NTC.CT10.T.ENTC)")
=SELECT(!Hire.MM10)
=FORMULA.ARRAY("=('NTC'!NTC.MM10.T.WNTC+'NTC'!NTC.MM10.T.ENTC)")
=SELECT(!Hire.CHT10)
=FORMULA.ARRAY("=('NTC'!NTC.CHT10.T.WNTC+'NTC'!NTC.CHT10.T.ENTC)")
=RETURN()
```

2.5. Turbo Pascal Programs

These Turbo Pascal programs were written to help create the macros found in the macro worksheets. The programs, in fact, created text files which contain the macro commands. These text files were then copied into an EXCEL worksheet which was opened as a macro sheet. This converted the text files into EXCEL macros. The programs and their associated text files are listed in the table below :

Program Name	Text File Name
DelCHTRangesMDSProgram	DelCHTRangesMDS
DelCTRangesMDSProgram	DelCTRangesMDS
DelMMRangesMDSProgram	DelMMRangesMDS
DelMPRangesMDSProgram	DelMPRangesMDS
DelNOPRangesMDSProgram	DelNOPRangesMDS
DelCHTRangesNTCProgram	DelCHTRangesNTC
DelCTRangesNTCProgram	DelCTRangesNTC
DelMMRangesNTCProgram	DelMMRangesNTC
DelMPRangesNTCProgram	DelMPRangesNTC
DelNOPRangesNTCProgram	DelNOPRangesNTC
DelMDSRangesProgram	DelMDSRanges
DelNTCRangesProgram	DelNTCRanges
DelHireNTCRangesProgram	DelHireNTCRanges
DelHireRangesProgram	DelHireRanges
CHTRangesMDSProgram	CHTRangesMDS
CTRangesMDSProgram	CTRangesMDS
MMRangesMDSProgram	MMRangesMDS
MPRangesMDSProgram	MPRangesMDS
NOPRangesMDSProgram	NOPRangesMDS
CHTRangesNTCProgram	CHTRangesNTC
CTRangesNTCProgram	CTRangesNTC
MMRangesNTCProgram	MMRangesNTC
MPRangesNTCProgram	MPRangesNTC
NOPRangesNTCProgram	NOPRangesNTC
MDSRangesProgram	MDSRanges
NTCRangesProgram	NTCRanges
HireNTCRangesProgram	HireNTCRanges
HireRangesProgram	HireRanges
MDSLinksProgram	MDSLinks
NTCLinksProgram	NTCLinks
HireLinksProgram	HireLinks

The Turbo Pascal programs in the Staff Planning Model all have a similar structure, shown in figure 6 below.

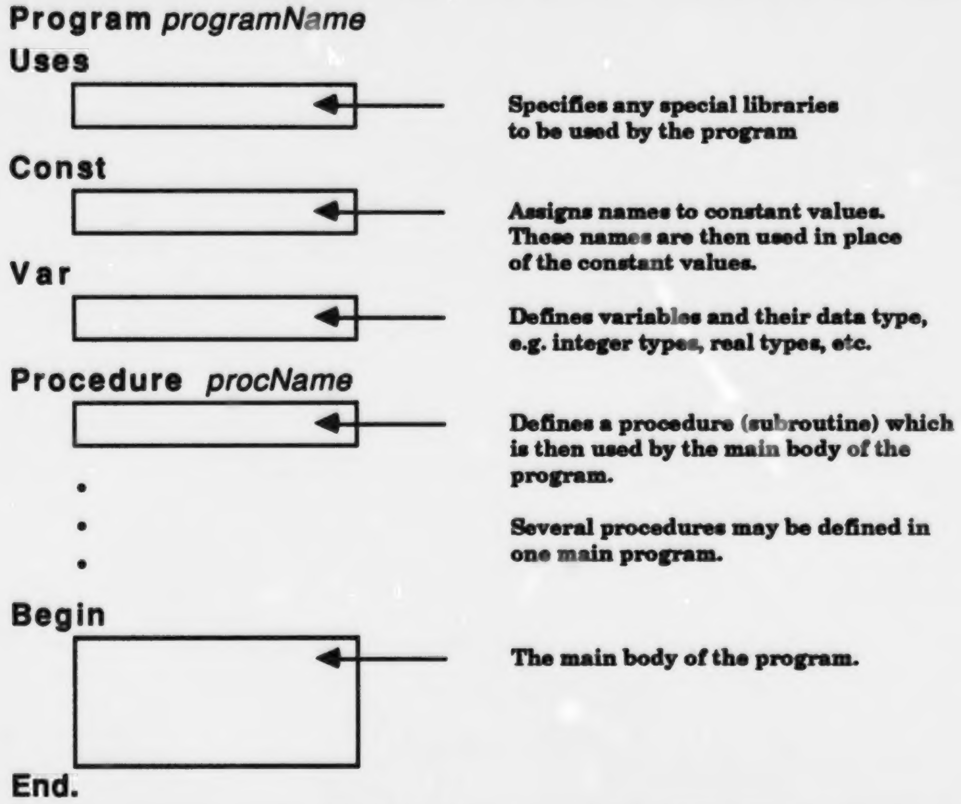
Program *programName*
Uses
Specifies any special libraries to be used by the program
Const
Assigns names to constant values. These names are then used in place of the constant values.
Var
Defines variables and their data type, e.g. integer types, real types, etc.
Procedure *procName*
Defines a procedure (subroutine) which is then used by the main body of the program.
Several procedures may be defined in one main program.
Begin
The main body of the program.
End.

Figure 6: *Design structure for Turbo Pascal programs used in the Staff Planning Model.*

The following pseudocode describes the algorithm used by all the programs:

```
Program Main
begin
    { Open the output text file }
    for i = 1 to number-of-years do
        begin
            { convert the year value to a numeric string }
            { convert the row and column values to numeric strings }
            { write the macro command to the output file }
        end {for}
    { write the macro termination command to the output file }
end. {Main}
```

2.5.1. DelCHTRangesMDSProgram

```
program DelCHTRangesMDS;

uses
 SANE;

const
   startYear = 1;
  numberOfYears = 13;

var
   outfile : text;
   outFileName : string[255];
    outString : string[255];
  SYear : DecStr;
  i : integer;
  Format1 : DecForm;

procedure WriteCHT;
begin
     outString := Concat ('=DELETE.NAME("CHT',SYear,'.NGD0")');
      writeln (outfile,outString);
     outString := Concat ('=DELETE.NAME("CHT',SYear,'.NGD1")');
      writeln (outfile,outString);
     outString := Concat ('=DELETE.NAME("CHT',SYear,'.NGD2")');
      writeln (outfile,outString);
     outString := Concat ('=DELETE.NAME("CHT',SYear,'.TTSD0")');
      writeln (outfile,outString);
     outString := Concat ('=DELETE.NAME("CHT',SYear,'.TTSD1")');
      writeln (outfile,outString);
     outString := Concat ('=DELETE.NAME("CHT',SYear,'.TTSD2")');
      writeln (outfile,outString);
 end;  {WriteCHT}

begin
    outFileName := 'Internal Drive:Staff Planning:Working Plan:DelCHTRangesMDS';
     rewrite (outfile,outFileName);
    Format1.Style := FixedDecimal;
    Format1.Digits := 0;
    for i := 0 to numberOfYears-1 do
   begin
         Num2Str(Format1,Num2Extended(startYear+i),SYear);
     WriteCHT;
    end;  {for}
   outString := '=RETURN()';
     writeln (outfile,outString);
   close (outfile);
end.
```

2.5.2. DelCTRangesMDSProgram

```
program DelCTRangesMDS;

uses
  SANE;

const
    startYear = 1;
   numberOfYears = 13;

var
    outfile : text;
     outFileName : string[255];
      outString : string[255];
   SYear : DecStr;
    i : integer;
   Format1 : DecForm;

  procedure WriteCT;
  begin
       outString := Concat ('=DELETE.NAME("CT',SYear,'.NGD0")');
        writeln (outfile,outString);
       outString := Concat ('=DELETE.NAME("CT',SYear,'.NGD1")');
        writeln (outfile,outString);
       outString := Concat ('=DELETE.NAME("CT',SYear,'.NGD2")');
        writeln (outfile,outString);
       outString := Concat ('=DELETE.NAME("CT',SYear,'.TTSD0")');
        writeln (outfile,outString);
       outString := Concat ('=DELETE.NAME("CT',SYear,'.TTSD1")');
        writeln (outfile,outString);
       outString := Concat ('=DELETE.NAME("CT',SYear,'.TTSD2")');
        writeln (outfile,outString);
   end;  {WriteCT}

begin
      outFileName := 'Internal Drive:Staff Planning:Working Plan:DelCTRangesMDS';
      rewrite (outfile,outFileName);
     Format1.Style := FixedDecimal;
     Format1.Digits := 0;
     for i := 0 to numberOfYears-1 do
    begin
            Num2Str(Format1,Num2Extended(startYear+i),SYear);
       WriteCT;
      end;  {for}
     outString := '=RETURN()';
       writeln (outfile,outString);
     close (outfile);
end.
```

2.5.3. DelMMRangesMDSProgram

```
program DelMMRangesMDS;

uses
 SANE;

const
   startYear = 1;
   numberOfYears = 13;

var
    outfile : text;
    outFileName : string[255];
     outString : string[255];
   SYear : DecStr;
   i : integer;
   Format1 : DecForm;

 procedure WriteMM;
 begin
      outString := Concat ('=DELETE.NAME("MM',SYear,'.NGD0")');
       writeln (outfile,outString);
      outString := Concat ('=DELETE.NAME("MM',SYear,'.NGD1")');
       writeln (outfile,outString);
      outString := Concat ('=DELETE.NAME("MM',SYear,'.NGD2")');
       writeln (outfile,outString);
      outString := Concat ('=DELETE.NAME("MM',SYear,'.TTSD0")');
       writeln (outfile,outString);
      outString := Concat ('=DELETE.NAME("MM',SYear,'.TTSD1")');
       writeln (outfile,outString);
      outString := Concat ('=DELETE.NAME("MM',SYear,'.TTSD2")');
       writeln (outfile,outString);
   end;  {WriteMM}

begin
     outFileName := 'Internal Drive:Staff Planning:Working Plan:DelMMRangesMDS';
     rewrite (outfile,outFileName);
    Format1.Style := FixedDecimal;
    Format1.Digits := 0;
    for i := 0 to numberOfYears-1 do
   begin
         Num2Str(Format1,Num2Extended(startYear+i),SYear);
      WriteMM;
    end;  {for}
   outString := '=RETURN()';
     writeln (outfile,outString);
   close (outfile);
end.
```

2.5.4. DelMPRangesMDSProgram

```
program DelMPRangesMDS;

uses
  SANE;

const
    startYear = 1;
   numberOfYears = 13;

var
    outfile : text;
    outFileName : string[255];
     outString : string[255];
   SYear : DecStr;
   i : integer;
   Format1 : DecForm;

  procedure WriteMP;
  begin
       outString := Concat ('=DELETE.NAME("MP',SYear,'.NGD0")');
        writeln (outfile,outString);
       outString := Concat ('=DELETE.NAME("MP',SYear,'.NGD1")');
        writeln (outfile,outString);
       outString := Concat ('=DELETE.NAME("MP',SYear,'.NGD2")');
        writeln (outfile,outString);
       outString := Concat ('=DELETE.NAME("MP',SYear,'.TTSD0")');
        writeln (outfile,outString);
       outString := Concat ('=DELETE.NAME("MP',SYear,'.TTSD1")');
        writeln (outfile,outString);
       outString := Concat ('=DELETE.NAME("MP',SYear,'.TTSD2")');
        writeln (outfile,outString);
       outString := Concat ('=DELETE.NAME("SSIT',SYear,'.NGD")');
        writeln (outfile,outString);
       outString := Concat ('=DELETE.NAME("SSIT',SYear,'.TTSD")');
        writeln (outfile,outString);
   end;  {WriteMP}

begin
     outFileName := 'Internal Drive:Staff Planning:Working Plan:DelMPRangesMDS';
      rewrite (outfile,outFileName);
     Format1.Style := FixedDecimal;
     Format1.Digits := 0;
     for i := 0 to numberOfYears-1 do
    begin
          Num2Str(Format1,Num2Extended(startYear+i),SYear);
      WriteMP;
     end;  {for}
    outString := '=RETURN()';
      writeln (outfile,outString);
    close (outfile);
end.
```

2.5.5. DelNOPRangesMDSProgram

```
program DelNOPRangesMDS;

uses
 SANE;

const
   startYear = 1;
  numberOfYears = 13;

var
    outfile : text;
    outFileName : string[255];
     outString : string[255];
  SYear : DecStr;
  i : integer;
  Format1 : DecForm;

procedure WriteNOP;
 begin
     outString := Concat ('=DELETE.NAME("NOP',SYear,'.NGD0")');
       writeln (outfile,outString);
     outString := Concat ('=DELETE.NAME("NOP',SYear,'.NGD1")');
       writeln (outfile,outString);
     outString := Concat ('=DELETE.NAME("NOP',SYear,'.NGD2")');
       writeln (outfile,outString);
      outString := Concat ('=DELETE.NAME("NOP',SYear,'.TTSD0")');
       writeln (outfile,outString);
      outString := Concat ('=DELETE.NAME("NOP',SYear,'.TTSD1")');
       writeln (outfile,outString);
      outString := Concat ('=DELETE.NAME("NOP',SYear,'.TTSD2")');
       writeln (outfile,outString);
     outString := Concat ('=DELETE.NAME("UFOIT',SYear,'.NGD")');
       writeln (outfile,outString);
      outString := Concat ('=DELETE.NAME("UFOIT',SYear,'.TTSD")');
       writeln (outfile,outString);
  end;  {WriteNOP}

begin
    outFileName := 'Internal Drive:Staff Planning:Working Plan:DelNOPRangesMDS';
     rewrite (outfile,outFileName);
    Format1.Style := FixedDecimal;
    Format1.Digits := 0;
    for i := 0 to numberOfYears-1 do
   begin
          Num2Str(Format1,Num2Extended(startYear+i),SYear);
     WriteNOP;
    end;  {for}
   outString := '=RETURN()';
     writeln (outfile,outString);
   close (outfile);
end.
```

2.5.6. DelCHTRangesNTCProgram

```
program DelCHTRangesNTC;

uses
  SANE;

const
    startYear = 1;
   numberOfYears = 13;

 var
    outfile : text;
    outFileName : string[80];
     outString : string[255];
   SYear : DecStr;
   i : integer;
   Format1 : DecForm;

  procedure WriteCHT;
  begin
       outString := Concat ('=DELETE.NAME("CHT',SYear,'.WNTC0")');
        writeln (outfile,outString);
       outString := Concat ('=DELETE.NAME("CHT',SYear,'.WNTC1")');
        writeln (outfile,outString);
       outString := Concat ('=DELETE.NAME("CHT',SYear,'.WNTC2")');
        writeln (outfile,outString);
       outString := Concat ('=DELETE.NAME("CHT',SYear,'.ENTC0")');
        writeln (outfile,outString);
       outString := Concat ('=DELETE.NAME("CHT',SYear,'.ENTC1")');
        writeln (outfile,outString);
       outString := Concat ('=DELETE.NAME("CHT',SYear,'.ENTC2")');
        writeln (outfile,outString);
   end;  {WriteCHT}

begin
     outFileName := 'Internal Drive:Staff Planning:Working Plan:DelCHTRangesNTC';
      rewrite (outfile,outFileName);
     Format1.Style := FixedDecimal;
     Format1.Digits := 0;
     for i := 0 to numberOfYears-1 do
    begin
          Num2Str(Format1,Num2Extended(startYear+i),SYear);
       WriteCHT;
      end;  {for}
    outString := '=RETURN()';
      writeln (outfile,outString);
     close (outfile);
 end.
```

2.5.7. DelCTRangesNTCProgram

```
program DelCTRangesNTC;

uses
  SANE;

const
    startYear = 1;
   numberOfYears = 13;

var
    outfile : text;
    outFileName : string[80];
     outString : string[255];
   SYear : DecStr;
   i : integer;
   Format1 : DecForm;

  procedure WriteCT;
  begin
       outString := Concat ('=DELETE.NAME("CT',SYear,'.WNTC0")');
        writeln (outfile,outString);
       outString := Concat ('=DELETE.NAME("CT',SYear,'.WNTC1")');
        writeln (outfile,outString);
       outString := Concat ('=DELETE.NAME("CT',SYear,'.WNTC2")');
        writeln (outfile,outString);
       outString := Concat ('=DELETE.NAME("CT',SYear,'.ENTC0")');
        writeln (outfile,outString);
       outString := Concat ('=DELETE.NAME("CT',SYear,'.ENTC1")');
        writeln (outfile,outString);
       outString := Concat ('=DELETE.NAME("CT',SYear,'.ENTC2")');
        writeln (outfile,outString);
   end;  {WriteCT}

begin
     outFileName := 'Internal Drive:Staff Planning:Working Plan:DelCTRangesNTC';
      rewrite (outfile,outFileName);
    Format1.Style := FixedDecimal;
    Format1.Digits := 0;
    for i := 0 to numberOfYears-1 do
   begin
         Num2Str(Format1,Num2Extended(startYear+i),SYear);
     WriteCT;
    end;  {for}
   outString := '=RETURN()';
     writeln (outfile,outString);
   close (outfile);
end.
```

2.5.8. DelMMRangesNTCProgram

```
program DelMMRangesNTC;

uses
  SANE;

const
   startYear = 1;
  numberOfYears = 13;

 var
    outfile : text;
    outFileName : string[80];
     outString : string[255];
   SYear : DecStr;
   i : integer;
   Format1 : DecForm;

  procedure WriteMM;
  begin
       outString := Concat ('=DELETE.NAME("MM',SYear,'.WNTC0")');
        writeln (outfile,outString);
       outString := Concat ('=DELETE.NAME("MM',SYear,'.WNTC1")');
        writeln (outfile,outString);
       outString := Concat ('=DELETE.NAME("MM',SYear,'.WNTC2")');
        writeln (outfile,outString);
       outString := Concat ('=DELETE.NAME("MM',SYear,'.ENTC0")');
        writeln (outfile,outString);
       outString := Concat ('=DELETE.NAME("MM',SYear,'.ENTC1")');
        writeln (outfile,outString);
       outString := Concat ('=DELETE.NAME("MM',SYear,'.ENTC2")');
        writeln (outfile,outString);
   end;  {WriteMM}

begin
     outFileName := 'Internal Drive:Staff Planning:Working Plan:DelMMRangesNTC';
     rewrite (outfile,outFileName);
    Format1.Style := FixedDecimal;
    Format1.Digits := 0;
    for i := 0 to numberOfYears-1 do
   begin
         Num2Str(Format1,Num2Extended(startYear+i),SYear);
     WriteMM;
    end;  {for}
   outString := '=RETURN()';
     writeln (outfile,outString);
   close (outfile);
end.
```

2.5.9. DelMPRangesNTCProgram

```
program DelMPRangesNTC;

uses
  SANE;

const
    startYear = 1;
   numberOfYears = 13;

 var
     outfile : text;
     outFileName : string[80];
      outString : string[255];
    SYear : DecStr;
    i : integer;
    Format1 : DecForm;

  procedure WriteMP;
  begin
       outString := Concat ('=DELETE.NAME("MP',SYear,'.WNTC0")');
        writeln (outfile,outString);
       outString := Concat ('=DELETE.NAME("MP',SYear,'.WNTC1")');
        writeln (outfile,outString);
       outString := Concat ('=DELETE.NAME("MP',SYear,'.WNTC2")');
        writeln (outfile,outString);
       outString := Concat ('=DELETE.NAME("MP',SYear,'.ENTC0")');
        writeln (outfile,outString);
       outString := Concat ('=DELETE.NAME("MP',SYear,'.ENTC1")');
        writeln (outfile,outString);
       outString := Concat ('=DELETE.NAME("MP',SYear,'.ENTC2")');
        writeln (outfile,outString);
   end;  {WriteMP}

begin
      outFileName := 'Internal Drive:Staff Planning:Working Plan:DelMPRangesNTC';
      rewrite (outfile,outFileName);
     Format1.Style := FixedDecimal;
     Format1.Digits := 0;
     for i := 0 to numberOfYears-1 do
    begin
         Num2Str(Format1,Num2Extended(startYear+i),SYear);
       WriteMP;
     end;  {for}
    outString := '=RETURN()';
      writeln (outfile,outString);
    close (outfile);
end.
```

2.5.10. DelNOPRangesNTCProgram

```
program DelNOPRangesNTC;

uses
 SANE;

const
   startYear = 1;
  numberOfYears = 13;

var
   outfile : text;
   outFileName : string[80];
    outString : string[255];
  SYear : DecStr;
  i : integer;
  Format1 : DecForm;

procedure WriteNOP;
begin
     outString := Concat ('=DELETE.NAME("NOP',SYear,'.WNTC0")');
       writeln (outfile,outString);
     outString := Concat ('=DELETE.NAME("NOP',SYear,'.WNTC1")');
       writeln (outfile,outString);
     outString := Concat ('=DELETE.NAME("NOP',SYear,'.WNTC2")');
       writeln (outfile,outString);
     outString := Concat ('=DELETE.NAME("NOP',SYear,'.ENTC0")');
       writeln (outfile,outString);
     outString := Concat ('=DELETE.NAME("NOP',SYear,'.ENTC1")');
       writeln (outfile,outString);
     outString := Concat ('=DELETE.NAME("NOP',SYear,'.ENTC2")');
       writeln (outfile,outString);
  end; {WriteNOP}

begin
    outFileName := 'Internal Drive:Staff Planning:Working Plan:DelNOPRangesNTC';
     rewrite (outfile,outFileName);
    Format1.Style := FixedDecimal;
    Format1.Digits := 0;
    for i := 0 to numberOfYears-1 do
   begin
          Num2Str(Format1,Num2Extended(startYear+i),SYear);
     WriteNOP;
    end; {for}
   outString := '=RETURN()';
     writeln (outfile,outString);
   close (outfile);
end.
```

2.5.11. DelMDSRangesProgram

```
program DelMDSRanges;

uses
 SANE;

const
   startYear = 1;
  numberOfYears = 10;

var
   outfile : text;
   outFileName : string[80];
    outString : string[255];
  SYear : DecStr;
  i : integer;
  Format1 : DecForm;

 procedure WriteMP;
 begin
     outString := Concat ('=DELETE.NAME("MDS.MP',SYear,'.E.NGD")');
       writeln (outfile,outString);
     outString := Concat ('=DELETE.NAME("MDS.MP',SYear,'.1.NGD")');
       writeln (outfile,outString);
     outString := Concat ('=DELETE.NAME("MDS.MP',SYear,'.2.NGD")');
       writeln (outfile,outString);
     outString := Concat ('=DELETE.NAME("MDS.SSIT',SYear,'.NGD")');
       writeln (outfile,outString);
     outString := Concat ('=DELETE.NAME("MDS.MP',SYear,'.E.TTSD")');
       writeln (outfile,outString);
      outString := Concat ('=DELETE.NAME("MDS.MP',SYear,'.1.TTSD")');
       writeln (outfile,outString);
      outString := Concat ('=DELETE.NAME("MDS.MP',SYear,'.2.TTSD")');
       writeln (outfile,outString);
      outString := Concat ('=DELETE.NAME("MDS.SSIT',SYear,'.TTSD")');
       writeln (outfile,outString);
  end;  {WriteMP}

 procedure WriteNOP;
  begin
     outString := Concat ('=DELETE.NAME("MDS.NOP',SYear,'.E.NGD")');
       writeln (outfile,outString);
     outString := Concat ('=DELETE.NAME("MDS.NOP',SYear,'.1.NGD")');
       writeln (outfile,outString);
     outString := Concat ('=DELETE.NAME("MDS.NOP',SYear,'.2.NGD")');
       writeln (outfile,outString);
     outString := Concat ('=DELETE.NAME("MDS.UFOIT',SYear,'.NGD")');
       writeln (outfile,outString);
     outString := Concat ('=DELETE.NAME("MDS.NOP',SYear,'.E.TTSD")');
       writeln (outfile,outString);
      outString := Concat ('=DELETE.NAME("MDS.NOP',SYear,'.1.TTSD")');
       writeln (outfile,outString);
    outString := Concat ('=DELETE.NAME("MDS.NOP',SYear,'.2.TTSD")');
     writeln (outfile,outString);
    outString := Concat ('=DELETE.NAME("MDS.UFOIT',SYear,'.TTSD")');
     writeln (outfile,outString);
end; {WriteNOP}

procedure WriteCT;
begin
    outString := Concat ('=DELETE.NAME("MDS.CT',SYear,'.E.NGD")');
     writeln (outfile,outString);
    outString := Concat ('=DELETE.NAME("MDS.CT',SYear,'.1.NGD")');
     writeln (outfile,outString);
    outString := Concat ('=DELETE.NAME("MDS.CT',SYear,'.2.NGD")');
     writeln (outfile,outString);
    outString := Concat ('=DELETE.NAME("MDS.CT',SYear,'.E.TTSD")');
     writeln (outfile,outString);
    outString := Concat ('=DELETE.NAME("MDS.CT',SYear,'.1.TTSD")');
     writeln (outfile,outString);
    outString := Concat ('=DELETE.NAME("MDS.CT',SYear,'.2.TTSD")');
     writeln (outfile,outString);
end; {WriteCT}

procedure WriteMM;
begin
    outString := Concat ('=DELETE.NAME("MDS.MM',SYear,'.E.NGD")');
     writeln (outfile,outString);
    outString := Concat ('=DELETE.NAME("MDS.MM',SYear,'.1.NGD")');
     writeln (outfile,outString);
    outString := Concat ('=DELETE.NAME("MDS.MM',SYear,'.2.NGD")');
     writeln (outfile,outString);
    outString := Concat ('=DELETE.NAME("MDS.MM',SYear,'.E.TTSD")');
     writeln (outfile,outString);
    outString := Concat ('=DELETE.NAME("MDS.MM',SYear,'.1.TTSD")');
     writeln (outfile,outString);
    outString := Concat ('=DELETE.NAME("MDS.MM',SYear,'.2.TTSD")');
     writeln (outfile,outString);
end; {WriteMM}

procedure WriteCHT;
begin
    outString := Concat ('=DELETE.NAME("MDS.CHT',SYear,'.E.NGD")');
     writeln (outfile,outString);
    outString := Concat ('=DELETE.NAME("MDS.CHT',SYear,'.1.NGD")');
     writeln (outfile,outString);
    outString := Concat ('=DELETE.NAME("MDS.CHT',SYear,'.2.NGD")');
     writeln (outfile,outString);
    outString := Concat ('=DELETE.NAME("MDS.CHT',SYear,'.E.TTSD")');
     writeln (outfile,outString);
    outString := Concat ('=DELETE.NAME("MDS.CHT',SYear,'.1.TTSD")');
     writeln (outfile,outString);
    outString := Concat ('=DELETE.NAME("MDS.CHT',SYear,'.2.TTSD")');
     writeln (outfile,outString);
end; {WriteCHT}
```

```
begin {main}
    outFileName := 'Internal Drive:Staff Planning:Working Plan:DelMDSRanges';
     rewrite (outfile,outFileName);
   Format1.Style := FixedDecimal;
   Format1.Digits := 0;
   for i := 0 to numberOfYears-1 do
  begin
        Num2Str(Format1,Num2Extended(startYear+i),SYear);
     WriteMP;
    WriteNOP;
     WriteCT;
      WriteMM;
     WriteCHT;
   end;  {for}
  outString := '=RETURN()';
    writeln (outfile,outString);
   close (outfile);
end.
```

2.5.12. DelNTCRangesProgram

```
program DelNTCRanges;

uses
 SANE;

const
   startYear = 1;
  numberOfYears = 11;

var
   outfile : text;
   outFileName : string[80];
    outString : string[255];
  SYear : DecStr;
  i : integer;
  Format1 : DecForm;

 procedure WriteMP;
 begin
      outString := Concat ('=DELETE.NAME("NTC.MP',SYear,'.0.WNTC")');
       writeln (outfile,outString);
      outString := Concat ('=DELETE.NAME("NTC.MP',SYear,'.1.WNTC")');
       writeln (outfile,outString);
      outString := Concat ('=DELETE.NAME("NTC.MP',SYear,'.2.WNTC")');
       writeln (outfile,outString);
      outString := Concat ('=DELETE.NAME("NTC.MP',SYear,'.0.ENTC")');
       writeln (outfile,outString);
      outString := Concat ('=DELETE.NAME("NTC.MP',SYear,'.1.ENTC")');
       writeln (outfile,outString);
      outString := Concat ('=DELETE.NAME("NTC.MP',SYear,'.2.ENTC")');
       writeln (outfile,outString);
  end; {WriteMP}

 procedure WriteNOP;
 begin
      outString := Concat ('=DELETE.NAME("NTC.NOP',SYear,'.0.WNTC")');
       writeln (outfile,outString);
      outString := Concat ('=DELETE.NAME("NTC.NOP',SYear,'.1.WNTC")');
       writeln (outfile,outString);
      outString := Concat ('=DELETE.NAME("NTC.NOP',SYear,'.2.WNTC")');
       writeln (outfile,outString);
      outString := Concat ('=DELETE.NAME("NTC.NOP',SYear,'.0.ENTC")');
       writeln (outfile,outString);
      outString := Concat ('=DELETE.NAME("NTC.NOP',SYear,'.1.ENTC")');
       writeln (outfile,outString);
      outString := Concat ('=DELETE.NAME("NTC.NOP',SYear,'.2.ENTC")');
       writeln (outfile,outString);
  end; {WriteNOP}

 procedure WriteCT;
 begin
```

```
    outString := Concat ('=DELETE.NAME("NTC.CT',SYear,'.0.WNTC")');
     writeln (outfile,outString);
    outString := Concat ('=DELETE.NAME("NTC.CT',SYear,'.1.WNTC")');
     writeln (outfile,outString);
    outString := Concat ('=DELETE.NAME("NTC.CT',SYear,'.2.WNTC")');
     writeln (outfile,outString);
    outString := Concat ('=DELETE.NAME("NTC.CT',SYear,'.0.ENTC")');
     writeln (outfile,outString);
    outString := Concat ('=DELETE.NAME("NTC.CT',SYear,'.1.ENTC")');
     writeln (outfile,outString);
    outString := Concat ('=DELETE.NAME("NTC.CT',SYear,'.2.ENTC")');
     writeln (outfile,outString);
 end;  {WriteCT}

procedure WriteMM;
begin
    outString := Concat ('=DELETE.NAME("NTC.MM',SYear,'.0.WNTC")');
     writeln (outfile,outString);
    outString := Concat ('=DELETE.NAME("NTC.MM',SYear,'.1.WNTC")');
     writeln (outfile,outString);
    outString := Concat ('=DELETE.NAME("NTC.MM',SYear,'.2.WNTC")');
     writeln (outfile,outString);
    outString := Concat ('=DELETE.NAME("NTC.MM',SYear,'.0.ENTC")');
     writeln (outfile,outString);
    outString := Concat ('=DELETE.NAME("NTC.MM',SYear,'.1.ENTC")');
     writeln (outfile,outString);
    outString := Concat ('=DELETE.NAME("NTC.MM',SYear,'.2.ENTC")');
     writeln (outfile,outString);
 end;  {WriteMM}

procedure WriteCHT;
begin
    outString := Concat ('=DELETE.NAME("NTC.CHT',SYear,'.0.WNTC")');
     writeln (outfile,outString);
    outString := Concat ('=DELETE.NAME("NTC.CHT',SYear,'.1.WNTC")');
     writeln (outfile,outString);
    outString := Concat ('=DELETE.NAME("NTC.CHT',SYear,'.2.WNTC")');
     writeln (outfile,outString);
    outString := Concat ('=DELETE.NAME("NTC.CHT',SYear,'.0.ENTC")');
     writeln (outfile,outString);
    outString := Concat ('=DELETE.NAME("NTC.CHT',SYear,'.1.ENTC")');
     writeln (outfile,outString);
    outString := Concat ('=DELETE.NAME("NTC.CHT',SYear,'.2.ENTC")');
     writeln (outfile,outString);
 end;  {WriteCHT}
```

```
begin {main}
    outFileName := 'Internal Drive:Staff Planning:Working Plan:DelNTCRanges';
    rewrite (outfile,outFileName);
   Format1.Style := FixedDecimal;
   Format1.Digits := 0;
   for i := 0 to numberOfYears-1 do
   begin
        Num2Str(Format1,Num2Extended(startYear+i),SYear);
     WriteMP;
     WriteNOP;
     WriteCT;
     WriteMM;
     WriteCHT;
    end;  {for}
   outString := '=RETURN()';
     writeln (outfile,outString);
   close (outfile);
end.
```

2.5.13. DelHireNTCRangesProgram

```
program DelHireNTCRanges;

uses
 SANE;

const
   startYear = 1;
  numberOfYears = 10;

var
   outfile : text;
   outFileName : string[80];
    outString : string[255];
  SYear : DecStr;
  i : integer;
  Format1 : DecForm;

 procedure WriteMP;
 begin
     outString := Concat ('=DELETE.NAME("NTC.MP',SYear,'.T.WNTC")');
      writeln (outfile,outString);
     outString := Concat ('=DELETE.NAME("NTC.MP',SYear,'.T.ENTC")');
      writeln (outfile,outString);
  end; {WriteMP}

procedure WriteNOP;
 begin
     outString := Concat ('=DELETE.NAME("NTC.NOP',SYear,'.T.WNTC")');
      writeln (outfile,outString);
     outString := Concat ('=DELETE.NAME("NTC.NOP',SYear,'.T.ENTC")');
      writeln (outfile,outString);
 end; {WriteNOP}

 procedure WriteCT;
 begin
     outString := Concat ('=DELETE.NAME("NTC.CT',SYear,'.T.WNTC")');
      writeln (outfile,outString);
     outString := Concat ('=DELETE.NAME("NTC.CT',SYear,'.T.ENTC")');
      writeln (outfile,outString);
  end; {WriteCT}

 procedure WriteMM;
 begin
     outString := Concat ('=DELETE.NAME("NTC.MM',SYear,'.T.WNTC")');
      writeln (outfile,outString);
     outString := Concat ('=DELETE.NAME("NTC.MM',SYear,'.T.ENTC")');
      writeln (outfile,outString);
  end; {WriteMM}
```

```
procedure WriteCHT;
 begin
     outString := Concat ('=DELETE.NAME("NTC.CHT',SYear,'.T.WNTC")');
      writeln (outfile,outString);
     outString := Concat ('=DELETE.NAME("NTC.CHT',SYear,'.T.ENTC")');
      writeln (outfile,outString);
  end;  {WriteCHT}

begin {main}
     outFileName := 'Internal Drive:Staff Planning:Working Plan:DelHireNTCRanges';
     rewrite (outfile,outFileName);
    Format1.Style := FixedDecimal;
    Format1.Digits := 0;
    for i := 0 to numberOfYears-1 do
   begin
         Num2Str(Format1,Num2Extended(startYear+i),SYear);
      WriteMP;
      WriteNOP;
      WriteCT;
      WriteMM;
      WriteCHT;
    end;  {for}
   outString := '=RETURN()';
     writeln (outfile,outString);
    close (outfile);
end.
```

2.5.14. DelHireRangesProgram

```
program DelHireRanges;

uses
    SANE;

const
    startYear = 1;
    numberOfYears = 10;

var
    outfile : text;
    outFileName : string[80];
    outString : string[255];
    SYear : DecStr;
    i : integer;
    Format1 : DecForm;

procedure WriteMP;
    begin
        outString := Concat ('=DELETE.NAME("Hire.MP',SYear,'")');
        writeln (outfile,outString);
    end;  {WriteMP}

procedure WriteNOP;
    begin
        outString := Concat ('=DELETE.NAME("Hire.NOP',SYear,'")');
        writeln (outfile,outString);
    end;  {WriteNOP}

procedure WriteCT;
    begin
        outString := Concat ('=DELETE.NAME("Hire.CT',SYear,'")');
        writeln (outfile,outString);
    end;  {WriteCT}

procedure WriteMM;
    begin
        outString := Concat ('=DELETE.NAME("Hire.MM',SYear,'")');
        writeln (outfile,outString);
    end;  {WriteMM}

procedure WriteCHT;
    begin
        outString := Concat ('=DELETE.NAME("Hire.CHT',SYear,'")');
        writeln (outfile,outString);
    end;  {WriteCHT}
```

```
begin {main}
    outFileName := 'Internal Drive:Staff Planning:Working Plan:DelHireRanges';
    rewrite (outfile,outFileName);
    Format1.Style := FixedDecimal;
    Format1.Digits := 0;
    for i := 0 to numberOfYears-1 do
        begin
            Num2Str(Format1,Num2Extended(startYear+i),SYear);
            WriteMP;
            WriteNOP;
            WriteCT;
            WriteMM;
            WriteCHT;
        end;  {for}
    outString := '=RETURN()';
    writeln (outfile,outString);
    close (outfile);
end.
```

2.5.15. CHTRangesMDSProgram

```
program CHTRangesMDS;

uses
  SANE;

const
    startYear = 1;
   numberOfYears = 13;
    rowIncr = 19;
   colIncr = 0;
    startRow1 = 22;
    startRow2 = 30;
    startCol1 = 6;
    startCol2 = 7;
    startCol3 = 8;
    startCol4 = 13;
  endRow1 = 29;
  endRow2 = 32;
  endCol1 = 6;
  endCol2 = 7;
  endCol3 = 8;
  endCol4 = 13;

var
    outfile : text;
    outFileName : string[255];
     outString : string[255];
  SYear : DecStr;
    SRow1,SRow2,SCol1,SCol2,SCol3,SCol4 : DecStr;
   ERow1,ERow2,ECol1,ECol2,ECol3,ECol4 : DecStr;
   i : integer;
   Format1 : DecForm;

procedure WriteCHT;
begin
     outString := Concat ('=DEFINE.NAME("CHT',SYear,'.NGD0","=R',
                         SRow1,'C',SCol3,':R',ERow1,'C',ECol3,'")');
      writeln (outfile,outString);
     outString := Concat ('=DEFINE.NAME("CHT',SYear,'.NGD1","=R',
                         SRow1,'C',SCol2,':R',ERow1,'C',ECol2,'")');
      writeln (outfile,outString);
     outString := Concat ('=DEFINE.NAME("CHT',SYear,'.NGD2","=R',
                         SRow1,'C',SCol1,':R',ERow1,'C',ECol1,'")');
      writeln (outfile,outString);
      outString := Concat ('=DEFINE.NAME("CHT',SYear,'.TTSD0","=R',
                         SRow2,'C',SCol3,':R',ERow2,'C',ECol3,'")');
      writeln (outfile,outString);
      outString := Concat ('=DEFINE.NAME("CHT',SYear,'.TTSD1","=R',
                         SRow2,'C',SCol2,':R',ERow2,'C',ECol2,'")');
      writeln (outfile,outString);
      outString := Concat ('=DEFINE.NAME("CHT',SYear,'.TTSD2","=R',
                          SRow2,'C',SCol1,':R',ERow2,'C',ECol1,'")');
       writeln (outfile,outString);
   end;  {WriteCHT}

begin
     outFileName := 'Internal Drive:Staff Planning:Working Plan:CHTRangesMDS';
      rewrite (outfile,outFileName);
    Format1.Style := FixedDecimal;
    Format1.Digits := 0;
    for i := 0 to numberOfYears-1 do
   begin
          Num2Str(Format1,Num2Extended(startYear+i),SYear);
            Num2Str(Format1,Num2Extended(startRow1+(rowIncr*i)),SRow1);
            Num2Str(Format1,Num2Extended(startRow2+(rowIncr*i)),SRow2);
           Num2Str(Format1,Num2Extended(startCol1+(colIncr*i)),SCol1);
           Num2Str(Format1,Num2Extended(startCol2+(colIncr*i)),SCol2);
           Num2Str(Format1,Num2Extended(startCol3+(colIncr*i)),SCol3);
           Num2Str(Format1,Num2Extended(startCol4+(colIncr*i)),SCol4);
          Num2Str(Format1,Num2Extended(endRow1+(rowIncr*i)),ERow1);
          Num2Str(Format1,Num2Extended(endRow2+(rowIncr*i)),ERow2);
         Num2Str(Format1,Num2Extended(endCol1+(colIncr*i)),ECol1);
         Num2Str(Format1,Num2Extended(endCol2+(colIncr*i)),ECol2);
         Num2Str(Format1,Num2Extended(endCol3+(colIncr*i)),ECol3);
         Num2Str(Format1,Num2Extended(endCol4+(colIncr*i)),ECol4);
      WriteCHT;
     end;  {for}
    outString := '=RETURN()';
      writeln (outfile,outString);
    close (outfile);
end.
```

2.5.16. CTRangesMDSProgram

```
program CTRangesMDS;

uses
  SANE;

const
    startYear = 1;
   numberOfYears = 13;
    rowIncr = 19;
   colIncr = 0;
    startRow1 = 22;
    startRow2 = 30;
    startCol1 = 6;
    startCol2 = 7;
    startCol3 = 8;
    startCol4 = 13;
   endRow1 = 29;
   endRow2 = 32;
   endCol1 = 6;
   endCol2 = 7;
   endCol3 = 8;
   endCol4 = 13;

var
    outfile : text;
    outFileName : string[255];
     outString : string[255];
   SYear : DecStr;
    SRow1,SRow2,SCol1,SCol2,SCol3,SCol4 : DecStr;
   ERow1,ERow2,ECol1,ECol2,ECol3,ECol4 : DecStr;
   i : integer;
   Format1 : DecForm;

 procedure WriteCT;
 begin
      outString := Concat ('=DEFINE.NAME("CT',SYear,'.NGD0","=R',
                          SRow1,'C',SCol3,':R',ERow1,'C',ECol3,'")');
       writeln (outfile,outString);
      outString := Concat ('=DEFINE.NAME("CT',SYear,'.NGD1","=R',
                          SRow1,'C',SCol2,':R',ERow1,'C',ECol2,'")');
       writeln (outfile,outString);
      outString := Concat ('=DEFINE.NAME("CT',SYear,'.NGD2","=R',
                          SRow1,'C',SCol1,':R',ERow1,'C',ECol1,'")');
       writeln (outfile,outString);
      outString := Concat ('=DEFINE.NAME("CT',SYear,'.TTSD0","=R',
                          SRow2,'C',SCol3,':R',ERow2,'C',ECol3,'")');
       writeln (outfile,outString);
      outString := Concat ('=DEFINE.NAME("CT',SYear,'.TTSD1","=R',
                          SRow2,'C',SCol2,':R',ERow2,'C',ECol2,'")');
       writeln (outfile,outString);
      outString := Concat ('=DEFINE.NAME("CT',SYear,'.TTSD2","=R',
                           SRow2,'C',SCol1,':R',ERow2,'C',ECol1,'")');
      writeln (outfile,outString);
   end; {WriteCT}

begin
     outFileName := 'Internal Drive:Staff Planning:Working Plan:CTRangesMDS';
     rewrite (outfile,outFileName);
    Format1.Style := FixedDecimal;
    Format1.Digits := 0;
    for i := 0 to numberOfYears-1 do
   begin
        Num2Str(Format1,Num2Extended(startYear+i),SYear);
          Num2Str(Format1,Num2Extended(startRow1+(rowIncr*i)),SRow1);
          Num2Str(Format1,Num2Extended(startRow2+(rowIncr*i)),SRow2);
         Num2Str(Format1,Num2Extended(startCol1+(colIncr*i)),SCol1);
         Num2Str(Format1,Num2Extended(startCol2+(colIncr*i)),SCol2);
         Num2Str(Format1,Num2Extended(startCol3+(colIncr*i)),SCol3);
         Num2Str(Format1,Num2Extended(startCol4+(colIncr*i)),SCol4);
        Num2Str(Format1,Num2Extended(endRow1+(rowIncr*i)),ERow1);
        Num2Str(Format1,Num2Extended(endRow2+(rowIncr*i)),ERow2);
       Num2Str(Format1,Num2Extended(endCol1+(colIncr*i)),ECol1);
       Num2Str(Format1,Num2Extended(endCol2+(colIncr*i)),ECol2);
       Num2Str(Format1,Num2Extended(endCol3+(colIncr*i)),ECol3);
       Num2Str(Format1,Num2Extended(endCol4+(colIncr*i)),ECol4);
      WriteCT;
    end;  {for}
    outString := '=RETURN()';
      writeln (outfile,outString);
    close (outfile);
end.
```

2.5.17. MMRangesMDSProgram

```
program MMRangesMDS;

uses
  SANE;

const
    startYear = 1;
   numberOfYears = 13;
    rowIncr = 19;
   colIncr = 0;
    startRow1 = 22;
    startRow2 = 30;
    startCol1 = 6;
    startCol2 = 7;
    startCol3 = 8;
    startCol4 = 13;
  endRow1 = 29;
  endRow2 = 32;
  endCol1 = 6;
  endCol2 = 7;
  endCol3 = 8;
  endCol4 = 13;

var
    outfile : text;
     outFileName : string[255];
      outString : string[255];
  SYear : DecStr;
    SRow1,SRow2,SCol1,SCol2,SCol3,SCol4 : DecStr;
   ERow1,ERow2,ECol1,ECol2,ECol3,ECol4 : DecStr;
   i : integer;
   Format1 : DecForm;

 procedure WriteMM;
 begin
     outString := Concat ('=DEFINE.NAME("MM',SYear,'.NGD0","=R',
                     SRow1,'C',SCol3,':R',ERow1,'C',ECol3,'")');
      writeln (outfile,outString);
     outString := Concat ('=DEFINE.NAME("MM',SYear,'.NGD1","=R',
                     SRow1,'C',SCol2,':R',ERow1,'C',ECol2,'")');
      writeln (outfile,outString);
     outString := Concat ('=DEFINE.NAME("MM',SYear,'.NGD2","=R',
                     SRow1,'C',SCol1,':R',ERow1,'C',ECol1,'")');
      writeln (outfile,outString);
     outString := Concat ('=DEFINE.NAME("MM',SYear,'.TTSD0","=R',
                     SRow2,'C',SCol3,':R',ERow2,'C',ECol3,'")');
      writeln (outfile,outString);
     outString := Concat ('=DEFINE.NAME("MM',SYear,'.TTSD1","=R',
                     SRow2,'C',SCol2,':R',ERow2,'C',ECol2,'")');
     writeln (outfile,outString);
```

```
      outString := Concat ('=DEFINE.NAME("MM',SYear,'.TTSD2","=R',
                          SRow2,'C',SCol1,':R',ERow2,'C',ECol1,'")');
       writeln (outfile,outString);
   end;  {WriteMM}

begin
    outFileName := 'Internal Drive:Staff Planning:Working Plan:MMRangesMDS';
     rewrite (outfile,outFileName);
    Format1.Style := FixedDecimal;
    Format1.Digits := 0;
    for i := 0 to numberOfYears-1 do
   begin
          Num2Str(Format1,Num2Extended(startYear+i),SYear);
            Num2Str(Format1,Num2Extended(startRow1+(rowIncr*i)),SRow1);
            Num2Str(Format1,Num2Extended(startRow2+(rowIncr*i)),SRow2);
           Num2Str(Format1,Num2Extended(startCol1+(colIncr*i)),SCol1);
           Num2Str(Format1,Num2Extended(startCol2+(colIncr*i)),SCol2);
           Num2Str(Format1,Num2Extended(startCol3+(colIncr*i)),SCol3);
           Num2Str(Format1,Num2Extended(startCol4+(colIncr*i)),SCol4);
           Num2Str(Format1,Num2Extended(endRow1+(rowIncr*i)),ERow1);
           Num2Str(Format1,Num2Extended(endRow2+(rowIncr*i)),ERow2);
          Num2Str(Format1,Num2Extended(endCol1+(colIncr*i)),ECol1);
          Num2Str(Format1,Num2Extended(endCol2+(colIncr*i)),ECol2);
          Num2Str(Format1,Num2Extended(endCol3+(colIncr*i)),ECol3);
          Num2Str(Format1,Num2Extended(endCol4+(colIncr*i)),ECol4);
      WriteMM;
     end;  {for}
    outString := '=RETURN()';
      writeln (outfile,outString);
    close (outfile);
end.
```

2.5.18. MPRangesMDSProgram

```
program MPRangesMDS;

uses
  SANE;

 const
     startYear = 1;
    numberOfYears = 13;
     rowIncr = 19;
    colIncr = 0;
     startRow1 = 22;
     startRow2 = 30;
     startCol1 = 6;
     startCol2 = 7;
     startCol3 = 8;
     startCol4 = 13;
    endRow1 = 29;
    endRow2 = 32;
   endCol1 = 6;
   endCol2 = 7;
   endCol3 = 8;
   endCol4 = 13;

 var
     outfile : text;
      outFileName : string[255];
       outString : string[255];
    SYear : DecStr;
      SRow1,SRow2,SCol1,SCol2,SCol3,SCol4 : DecStr;
    ERow1,ERow2,ECol1,ECol2,ECol3,ECol4 : DecStr;
    i : integer;
    Format1 : DecForm;

  procedure WriteMP;
  begin
        outString := Concat ('=DEFINE.NAME("MP',SYear,'.NGD0","=R',
                                SRow1,'C',SCol3,':R',ERow1,'C',ECol3,'")');
         writeln (outfile,outString);
        outString := Concat ('=DEFINE.NAME("MP',SYear,'.NGD1","=R',
                                SRow1,'C',SCol2,':R',ERow1,'C',ECol2,'")');
         writeln (outfile,outString);
        outString := Concat ('=DEFINE.NAME("MP',SYear,'.NGD2","=R',
                                SRow1,'C',SCol1,':R',ERow1,'C',ECol1,'")');
         writeln (outfile,outString);
         outString := Concat ('=DEFINE.NAME("MP',SYear,'.TTSD0","=R',
                                SRow2,'C',SCol3,':R',ERow2,'C',ECol3,'")');
         writeln (outfile,outString);
         outString := Concat ('=DEFINE.NAME("MP',SYear,'.TTSD1","=R',
                                SRow2,'C',SCol2,':R',ERow2,'C',ECol2,'")');
         writeln (outfile,outString);
      outString := Concat ('=DEFINE.NAME("MP',SYear,'.TTSD2","=R',
                          SRow2,'C',SCol1,':R',ERow2,'C',ECol1,'")');
       writeln (outfile,outString);
      outString := Concat ('=DEFINE.NAME("SSIT',SYear,'.NGD","=R',
                          SRow1,'C',SCol4,':R',ERow1,'C',ECol4,'")');
       writeln (outfile,outString);
      outString := Concat ('=DEFINE.NAME("SSIT',SYear,'.TTSD","=R',
                          SRow2,'C',SCol4,':R',ERow2,'C',ECol4,'")');
       writeln (outfile,outString);
   end; {WriteMP}

begin
    outFileName := 'Internal Drive:Staff Planning:Working Plan:MPRangesMDS';
    rewrite (outfile,outFileName);
   Format1.Style := FixedDecimal;
   Format1.Digits := 0;
   for i := 0 to numberOfYears-1 do
   begin
        Num2Str(Format1,Num2Extended(startYear+i),SYear);
          Num2Str(Format1,Num2Extended(startRow1+(rowIncr*i)),SRow1);
          Num2Str(Format1,Num2Extended(startRow2+(rowIncr*i)),SRow2);
         Num2Str(Format1,Num2Extended(startCol1+(colIncr*i)),SCol1);
         Num2Str(Format1,Num2Extended(startCol2+(colIncr*i)),SCol2);
         Num2Str(Format1,Num2Extended(startCol3+(colIncr*i)),SCol3);
         Num2Str(Format1,Num2Extended(startCol4+(colIncr*i)),SCol4);
        Num2Str(Format1,Num2Extended(endRow1+(rowIncr*i)),ERow1);
        Num2Str(Format1,Num2Extended(endRow2+(rowIncr*i)),ERow2);
        Num2Str(Format1,Num2Extended(endCol1+(colIncr*i)),ECol1);
        Num2Str(Format1,Num2Extended(endCol2+(colIncr*i)),ECol2);
        Num2Str(Format1,Num2Extended(endCol3+(colIncr*i)),ECol3);
        Num2Str(Format1,Num2Extended(endCol4+(colIncr*i)),ECol4);
     WriteMP;
    end; {for}
   outString := '=RETURN()';
    writeln (outfile,outString);
   close (outfile);
end.
```

2.5.19. NOPRangesMDSProgram

```
program NOPRangesMDS;

 uses
   SANE;

 const
     startYear = 1;
    numberOfYears = 13;
     rowIncr = 19;
    colIncr = 0;
     startRow1 = 22;
     startRow2 = 30;
     startCol1 = 6;
     startCol2 = 7;
     startCol3 = 8;
     startCol4 = 13;
   endRow1 = 29;
   endRow2 = 32;
   endCol1 = 6;
   endCol2 = 7;
   endCol3 = 8;
   endCol4 = 13;

 var
     outfile : text;
     outFileName : string[255];
      outString : string[255];
    SYear : DecStr;
     SRow1,SRow2,SCol1,SCol2,SCol3,SCol4 : DecStr;
    ERow1,ERow2,ECol1,ECol2,ECol3,ECol4 : DecStr;
    i : integer;
    Format1 : DecForm;

 procedure WriteNOP;
  begin
      outString := Concat ('=DEFINE.NAME("NOP',SYear,'.NGD0","=R',
                         SRow1,'C',SCol3,':R',ERow1,'C',ECol3,'")');
       writeln (outfile,outString);
      outString := Concat ('=DEFINE.NAME("NOP',SYear,'.NGD1","=R',
                         SRow1,'C',SCol2,':R',ERow1,'C',ECol2,'")');
       writeln (outfile,outString);
      outString := Concat ('=DEFINE.NAME("NOP',SYear,'.NGD2","=R',
                         SRow1,'C',SCol1,':R',ERow1,'C',ECol1,'")');
       writeln (outfile,outString);
      outString := Concat ('=DEFINE.NAME("NOP',SYear,'.TTSD0","=R',
                         SRow2,'C',SCol3,':R',ERow2,'C',ECol3,'")');
       writeln (outfile,outString);
      outString := Concat ('=DEFINE.NAME("NOP',SYear,'.TTSD1","=R',
                         SRow2,'C',SCol2,':R',ERow2,'C',ECol2,'")');
       writeln (outfile,outString);
      outString := Concat ('=DEFINE.NAME("NOP',SYear,'.TTSD2","=R',
                           SRow2,'C',SCol1,':R',ERow2,'C',ECol1,'")');
       writeln (outfile,outString);
      outString := Concat ('=DEFINE.NAME("UFOIT',SYear,'.NGD","=R',
                           SRow1,'C',SCol4,':R',ERow1,'C',ECol4,'")');
       writeln (outfile,outString);
      outString := Concat ('=DEFINE.NAME("UFOIT',SYear,'.TTSD","=R',
                           SRow2,'C',SCol4,':R',ERow2,'C',ECol4,'")');
       writeln (outfile,outString);
  end; {WriteNOP}

begin
    outFileName := 'Internal Drive:Staff Planning:Working Plan:NOPRangesMDS';
     rewrite (outfile,outFileName);
    Format1.Style := FixedDecimal;
    Format1.Digits := 0;
    for i := 0 to numberOfYears-1 do
    begin
         Num2Str(Format1,Num2Extended(startYear+i),SYear);
           Num2Str(Format1,Num2Extended(startRow1+(rowIncr*i)),SRow1);
           Num2Str(Format1,Num2Extended(startRow2+(rowIncr*i)),SRow2);
          Num2Str(Format1,Num2Extended(startCol1+(colIncr*i)),SCol1);
          Num2Str(Format1,Num2Extended(startCol2+(colIncr*i)),SCol2);
          Num2Str(Format1,Num2Extended(startCol3+(colIncr*i)),SCol3);
          Num2Str(Format1,Num2Extended(startCol4+(colIncr*i)),SCol4);
         Num2Str(Format1,Num2Extended(endRow1+(rowIncr*i)),ERow1);
         Num2Str(Format1,Num2Extended(endRow2+(rowIncr*i)),ERow2);
        Num2Str(Format1,Num2Extended(endCol1+(colIncr*i)),ECol1);
        Num2Str(Format1,Num2Extended(endCol2+(colIncr*i)),ECol2);
        Num2Str(Format1,Num2Extended(endCol3+(colIncr*i)),ECol3);
        Num2Str(Format1,Num2Extended(endCol4+(colIncr*i)),ECol4);
     WriteNOP;
    end; {for}
    outString := '=RETURN()';
     writeln (outfile,outString);
    close (outfile);
end.
```

2.5.20. CHTRangesNTCProgram

```
program CHTRangesNTC;

uses
 SANE;

const
   startYear = 1;
   numberOfYears = 13;
    rowIncr = 19; { to move to the next year }
    colIncr = 0;  { to move to the next year }
   startRow1 = 22;
   startRow2 = 27;
   startCol1 = 6;
   startCol2 = 7;
   startCol3 = 8;
  endRow1 = 26;
  endRow2 = 32;
  endCol1 = 6;
  endCol2 = 7;
  endCol3 = 8;

var
    outfile : text;
     outFileName : string[80];
     outString : string[255];
  SYear : DecStr;
   SRow1,SRow2,SCol1,SCol2,SCol3 : DecStr;
   ERow1,ERow2,ECol1,ECol2,ECol3 : DecStr;
  i : integer;
   Format1 : DecForm;

  procedure WriteCHT;
  begin
      outString := Concat ('=DEFINE.NAME("CHT',SYear,'.WNTC0","=R',
                        SRow1,'C',SCol3,':R',ERow1,'C',ECol3,'")');
       writeln (outfile,outString);
      outString := Concat ('=DEFINE.NAME("CHT',SYear,'.WNTC1","=R',
                        SRow1,'C',SCol2,':R',ERow1,'C',ECol2,'")');
       writeln (outfile,outString);
      outString := Concat ('=DEFINE.NAME("CHT',SYear,'.WNTC2","=R',
                        SRow1,'C',SCol1,':R',ERow1,'C',ECol1,'")');
       writeln (outfile,outString);
      outString := Concat ('=DEFINE.NAME("CHT',SYear,'.ENTC0","=R',
                        SRow2,'C',SCol3,':R',ERow2,'C',ECol3,'")');
       writeln (outfile,outString);
      outString := Concat ('=DEFINE.NAME("CHT',SYear,'.ENTC1","=K',
                        SRow2,'C',SCol2,':R',ERow2,'C',ECol2,'")');
       writeln (outfile,outString);
      outString := Concat ('=DEFINE.NAME("CHT',SYear,'.ENTC2","=R',
                        SRow2,'C',SCol1,':R',ERow2,'C',ECol1,'")');
       writeln (outfile,outString);
  end; {WriteCHT}
```

```
begin
    outFileName := 'Internal Drive:Staff Planning:Working Plan:CHTRangesNTC';
     rewrite (outfile,outFileName);
   Format1.Style := FixedDecimal;
   Format1.Digits := 0;
   for i := 0 to numberOfYears-1 do
   begin
        Num2Str(Format1,Num2Extended(startYear+i),SYear);
          Num2Str(Format1,Num2Extended(startRow1+(rowIncr*i)),SRow1);
          Num2Str(Format1,Num2Extended(startRow2+(rowIncr*i)),SRow2);
         Num2Str(Format1,Num2Extended(startCol1+(colIncr*i)),SCol1);
         Num2Str(Format1,Num2Extended(startCol2+(colIncr*i)),SCol2);
         Num2Str(Format1,Num2Extended(startCol3+(colIncr*i)),SCol3);
        Num2Str(Format1,Num2Extended(endRow1+(rowIncr*i)),ERow1);
        Num2Str(Format1,Num2Extended(endRow2+(rowIncr*i)),ERow2);
        Num2Str(Format1,Num2Extended(endCol1+(colIncr*i)),ECol1);
        Num2Str(Format1,Num2Extended(endCol2+(colIncr*i)),ECol2);
        Num2Str(Format1,Num2Extended(endCol3+(colIncr*i)),ECol3);
     WriteCHT;
    end;  {for}
   outString := '=RETURN()';
     writeln (outfile,outString);
   close (outfile);
end.
```

2.5.21. CTRangesNTCProgram

```
program CTRangesNTC;

uses
 SANE;

const
   startYear = 1;
  numberOfYears = 13;
    rowIncr = 19; { to move to the next year }
    colIncr = 0;  { to move to the next year }
   startRow1 = 22;
   startRow2 = 27;
   startCol1 = 6;
   startCol2 = 7;
   startCol3 = 8;
  endRow1 = 26;
  endRow2 = 32;
  endCol1 = 6;
  endCol2 = 7;
  endCol3 = 8;

var
   outfile : text;
   outFileName : string[80];
    outString : string[255];
  SYear : DecStr;
   SRow1,SRow2,SCol1,SCol2,SCol3 : DecStr;
  ERow1,ERow2,ECol1,ECol2,ECol3 : DecStr;
  i : integer;
  Format1 : DecForm;

 procedure WriteCT;
 begin
     outString := Concat ('=DEFINE.NAME("CT',SYear,'.WNTC0","=R',
                    SRow1,'C',SCol3,':R',ERow1,'C',ECol3,'")');
      writeln (outfile,outString);
     outString := Concat ('=DEFINE.NAME("CT',SYear,'.WNTC1","=R',
                    SRow1,'C',SCol2,':R',ERow1,'C',ECol2,'")');
      writeln (outfile,outString);
     outString := Concat ('=DEFINE.NAME("CT',SYear,'.WNTC2","=R',
                    SRow1,'C',SCol1,':R',ERow1,'C',ECol1,'")');
      writeln (outfile,outString);
     outString := Concat ('=DEFINE.NAME("CT',SYear,'.ENTC0","=R',
                    SRow2,'C',SCol3,':R',ERow2,'C',ECol3,'")');
      writeln (outfile,outString);
     outString := Concat ('=DEFINE.NAME("CT',SYear,'.ENTC1","=R',
                    SRow2,'C',SCol2,':R',ERow2,'C',ECol2,'")');
      writeln (outfile,outString);
     outString := Concat ('=DEFINE.NAME("CT',SYear,'.ENTC2","=R',
                    SRow2,'C',SCol1,':R',ERow2,'C',ECol1,'")');
      writeln (outfile,outString);
  end; {WriteCT}
```

```
begin
   outFileName := 'Internal Drive:Staff Planning:Working Plan:CTRangesNTC';
   rewrite (outfile,outFileName);
  Format1.Style := FixedDecimal;
  Format1.Digits := 0;
  for i := 0 to numberOfYears-1 do
  begin
      Num2Str(Format1,Num2Extended(startYear+i),SYear);
       Num2Str(Format1,Num2Extended(startRow1+(rowIncr*i)),SRow1);
       Num2Str(Format1,Num2Extended(startRow2+(rowIncr*i)),SRow2);
       Num2Str(Format1,Num2Extended(startCol1+(colIncr*i)),SCol1);
       Num2Str(Format1,Num2Extended(startCol2+(colIncr*i)),SCol2);
       Num2Str(Format1,Num2Extended(startCol3+(colIncr*i)),SCol3);
      Num2Str(Format1,Num2Extended(endRow1+(rowIncr*i)),ERow1);
      Num2Str(Format1,Num2Extended(endRow2+(rowIncr*i)),ERow2);
      Num2Str(Format1,Num2Extended(endCol1+(colIncr*i)),ECol1);
      Num2Str(Format1,Num2Extended(endCol2+(colIncr*i)),ECol2);
      Num2Str(Format1,Num2Extended(endCol3+(colIncr*i)),ECol3);
   WriteCT;
  end; {for}
  outString := '=RETURN()';
   writeln (outfile,outString);
  close (outfile);
end.
```

2.5.22. MMRangesNTCProgram

```
program MMRangesNTC;

uses
 SANE;

const
   startYear = 1;
  numberOfYears = 13;
    rowIncr = 19; { to move to the next year }
   colIncr = 0;  { to move to the next year }
   startRow1 = 22;
   startRow2 = 27;
   startCol1 = 6;
   startCol2 = 7;
   startCol3 = 8;
 endRow1 = 26;
 endRow2 = 32;
 endCol1 = 6;
 endCol2 = 7;
 endCol3 = 8;

var
   outfile : text;
   outFileName : string[80];
    outString : string[255];
  SYear : DecStr;
   SRow1,SRow2,SCol1,SCol2,SCol3 : DecStr;
  ERow1,ERow2,ECol1,ECol2,ECol3 : DecStr;
  i : integer;
  Format1 : DecForm;

 procedure WriteMM;
 begin
      outString := Concat ('=DEFINE.NAME("MM',SYear,'.WNTC0","=R',
                        SRow1,'C',SCol3,':R',ERow1,'C',ECol3,'")');
       writeln (outfile,outString);
      outString := Concat ('=DEFINE.NAME("MM',SYear,'.WNTC1","=R',
                        SRow1,'C',SCol2,':R',ERow1,'C',ECol2,'")');
       writeln (outfile,outString);
      outString := Concat ('=DEFINE.NAME("MM',SYear,'.WNTC2","=R',
                        SRow1,'C',SCol1,':R',ERow1,'C',ECol1,'")');
       writeln (outfile,outString);
      outString := Concat ('=DEFINE.NAME("MM',SYear,'.ENTC0","=R',
                        SRow2,'C',SCol3,':R',ERow2,'C',ECol3,'")');
       writeln (outfile,outString);
      outString := Concat ('=DEFINE.NAME("MM',SYear,'.ENTC1","=R',
                        SRow2,'C',SCol2,':R',ERow2,'C',ECol2,'")');
       writeln (outfile,outString);
      outString := Concat ('=DEFINE.NAME("MM',SYear,'.ENTC2","=R',
                        SRow2,'C',SCol1,':R',ERow2,'C',ECol1,'")');
       writeln (outfile,outString);
  end;  {WriteMM}
```

```
begin
    outFileName := 'Internal Drive:Staff Planning:Working Plan:MMRangesNTC';
    rewrite (outfile,outFileName);
   Format1.Style := FixedDecimal;
   Format1.Digits := 0;
   for i := 0 to numberOfYears-1 do
   begin
        Num2Str(Format1,Num2Extended(startYear+i),SYear);
          Num2Str(Format1,Num2Extended(startRow1+(rowIncr*i)),SRow1);
          Num2Str(Format1,Num2Extended(startRow2+(rowIncr*i)),SRow2);
         Num2Str(Format1,Num2Extended(startCol1+(colIncr*i)),SCol1);
         Num2Str(Format1,Num2Extended(startCol2+(colIncr*i)),SCol2);
         Num2Str(Format1,Num2Extended(startCol3+(colIncr*i)),SCol3);
        Num2Str(Format1,Num2Extended(endRow1+(rowIncr*i)),ERow1);
        Num2Str(Format1,Num2Extended(endRow2+(rowIncr*i)),ERow2);
       Num2Str(Format1,Num2Extended(endCol1+(colIncr*i)),ECol1);
       Num2Str(Format1,Num2Extended(endCol2+(colIncr*i)),ECol2);
       Num2Str(Format1,Num2Extended(endCol3+(colIncr*i)),ECol3);
     WriteMM;
    end;  {for}
   outString := '=RETURN()';
     writeln (outfile,outString);
   close (outfile);
end.
```

2.5.23. MPRangesNTCProgram

```
program MPRangesNTC;

 uses
   SANE;

 const
     startYear = 1;
    numberOfYears = 13;
      rowIncr = 19; { to move to the next year }
     colIncr = 0;  { to move to the next year }
     startRow1 = 22;
     startRow2 = 27;
    startCol1 = 6;
    startCol2 = 7;
    startCol3 = 8;
   endRow1 = 26;
   endRow2 = 32;
   endCol1 = 6;
   endCol2 = 7;
   endCol3 = 8;

 var
     outfile : text;
     outFileName : string[80];
      outString : string[255];
    SYear : DecStr;
     SRow1,SRow2,SCol1,SCol2,SCol3 : DecStr;
    ERow1,ERow2,ECol1,ECol2,ECol3 : DecStr;
    i : integer;
    Format1 : DecForm;

  procedure WriteMP;
  begin
       outString := Concat ('=DEFINE.NAME("MP',SYear,'.WNTC0","=R',
                          SRow1,'C',SCol3,':R',ERow1,'C',ECol3,'")');
        writeln (outfile,outString);
       outString := Concat ('=DEFINE.NAME("MP',SYear,'.WNTC1","=R',
                          SRow1,'C',SCol2,':R',ERow1,'C',ECol2,'")');
        writeln (outfile,outString);
       outString := Concat ('=DEFINE.NAME("MP',SYear,'.WNTC2","=R',
                          SRow1,'C',SCol1,':R',ERow1,'C',ECol1,'")');
        writeln (outfile,outString);
       outString := Concat ('=DEFINE.NAME("MP',SYear,'.ENTC0","=R',
                          SRow2,'C',SCol3,':R',ERow2,'C',ECol3,'")');
        writeln (outfile,outString);
       outString := Concat ('=DEFINE.NAME("MP',SYear,'.ENTC1","=R',
                          SRow2,'C',SCol2,':R',ERow2,'C',ECol2,'")');
        writeln (outfile,outString);
       outString := Concat ('=DEFINE.NAME("MP',SYear,'.ENTC2","=R',
                          SRow2,'C',SCol1,':R',ERow2,'C',ECol1,'")');
        writeln (outfile,outString);
   end; {WriteMP}
```

```
begin
    outFileName := 'Internal Drive:Staff Planning:Working Plan:MPRangesNTC';
    rewrite (outfile,outFileName);
   Format1.Style := FixedDecimal;
   Format1.Digits := 0;
   for i := 0 to numberOfYears-1 do
  begin
        Num2Str(Format1,Num2Extended(startYear+i),SYear);
          Num2Str(Format1,Num2Extended(startRow1+(rowIncr*i)),SRow1);
          Num2Str(Format1,Num2Extended(startRow2+(rowIncr*i)),SRow2);
         Num2Str(Format1,Num2Extended(startCol1+(colIncr*i)),SCol1);
         Num2Str(Format1,Num2Extended(startCol2+(colIncr*i)),SCol2);
         Num2Str(Format1,Num2Extended(startCol3+(colIncr*i)),SCol3);
        Num2Str(Format1,Num2Extended(endRow1+(rowIncr*i)),ERow1);
        Num2Str(Format1,Num2Extended(endRow2+(rowIncr*i)),ERow2);
        Num2Str(Format1,Num2Extended(endCol1+(colIncr*i)),ECol1);
        Num2Str(Format1,Num2Extended(endCol2+(colIncr*i)),ECol2);
        Num2Str(Format1,Num2Extended(endCol3+(colIncr*i)),ECol3);
    WriteMP;
   end; {for}
  outString := '=RETURN()';
    writeln (outfile,outString);
  close (outfile);
end.
```

2.5.24. NOPRangesNTCProgram

```
program NOPRangesNTC;

 uses
  SANE;

 const
    startYear = 1;
   numberOfYears = 13;
     rowIncr = 19; { to move to the next year }
    colIncr = 0;  { to move to the next year }
    startRow1 = 22;
    startRow2 = 27;
    startCol1 = 6;
    startCol2 = 7;
    startCol3 = 8;
   endRow1 = 26;
   endRow2 = 32;
   endCol1 = 6;
   endCol2 = 7;
   endCol3 = 8;

 var
    outfile : text;
    outFileName : string[80];
     outString : string[255];
   SYear : DecStr;
    SRow1,SRow2,SCol1,SCol2,SCol3 : DecStr;
   ERow1,ERow2,ECol1,ECol2,ECol3 : DecStr;
   i : integer;
   Format1 : DecForm;

 procedure WriteNOP;
  begin
      outString := Concat ('=DEFINE.NAME("NOP',SYear,'.WNTC0","=R',
                        SRow1,'C',SCol3,':R',ERow1,'C',ECol3,'")');
       writeln (outfile,outString);
      outString := Concat ('=DEFINE.NAME("NOP',SYear,'.WNTC1","=R',
                        SRow1,'C',SCol2,':R',ERow1,'C',ECol2,'")');
       writeln (outfile,outString);
      outString := Concat ('=DEFINE.NAME("NOP',SYear,'.WNTC2","=R',
                        SRow1,'C',SCol1,':R',ERow1,'C',ECol1,'")');
       writeln (outfile,outString);
      outString := Concat ('=DEFINE.NAME("NOP',SYear,'.ENTC0","=R',
                        SRow2,'C',SCol3,':R',ERow2,'C',ECol3,'")');
       writeln (outfile,outString);
      outString := Concat ('=DEFINE.NAME("NOP',SYear,'.ENTC1","=R',
                        SRow2,'C',SCol2,':R',ERow2,'C',ECol2,'")');
       writeln (outfile,outString);
      outString := Concat ('=DEFINE.NAME("NOP',SYear,'.ENTC2","=R',
                        SRow2,'C',SCol1,':R',ERow2,'C',ECol1,'")');
       writeln (outfile,outString);
  end;  {WriteNOP}
```

```
begin
    outFileName := 'Internal Drive:Staff Planning:Working Plan:NOPRangesNTC';
     rewrite (outfile,outFileName);
    Format1.Style := FixedDecimal;
    Format1.Digits := 0;
    for i := 0 to numberOfYears-1 do
   begin
          Num2Str(Format1,Num2Extended(startYear+i),SYear);
            Num2Str(Format1,Num2Extended(startRow1+(rowIncr*i)),SRow1);
            Num2Str(Format1,Num2Extended(startRow2+(rowIncr*i)),SRow2);
           Num2Str(Format1,Num2Extended(startCol1+(colIncr*i)),SCol1);
           Num2Str(Format1,Num2Extended(startCol2+(colIncr*i)),SCol2);
           Num2Str(Format1,Num2Extended(startCol3+(colIncr*i)),SCol3);
          Num2Str(Format1,Num2Extended(endRow1+(rowIncr*i)),ERow1);
          Num2Str(Format1,Num2Extended(endRow2+(rowIncr*i)),ERow2);
         Num2Str(Format1,Num2Extended(endCol1+(colIncr*i)),ECol1);
         Num2Str(Format1,Num2Extended(endCol2+(colIncr*i)),ECol2);
         Num2Str(Format1,Num2Extended(endCol3+(colIncr*i)),ECol3);
     WriteNOP;
    end;  {for}
    outString := '=RETURN()';
      writeln (outfile,outString);
    close (outfile);
end.
```

2.5.25. MDSRangesProgram

```
program MDSRanges;

uses
 SANE;

const
   startYear = 1;
  numberOfYears = 10;
   rowIncr = 0;
  colIncr = 15;
   startRow1  = 8;
   startRow2  = 9;
   startRow3  = 10;
   startRow4  = 16;
   startRow5  = 20;
   startRow6  = 21;
   startRow7  = 22;
   startRow8  = 28;
   startRow9  = 32;
   startRow10 = 33;
   startRow11 = 34;
   startRow12 = 40;
   startRow13 = 41;
   startRow14 = 42;
   startRow15 = 48;
   startRow16 = 49;
   startRow17 = 50;
 endRow1  = 8;
 endRow2  = 9;
 endRow3  = 10;
 endRow4  = 16;
 endRow5  = 20;
 endRow6  = 21;
 endRow7  = 22;
 endRow8  = 28;
 endRow9  = 32;
 endRow10 = 33;
 endRow11 = 34;
 endRow12 = 40;
 endRow13 = 41;
 endRow14 = 42;
 endRow15 = 48;
 endRow16 = 49;
 endRow17 = 50;
  startCol1 = 2;
  startCol2 = 11;
endCol1 = 9;
endCol2 = 13;
```

```
var
   outfile : text;
   outFileName : string[80];
    outString : string[255];
  SYear : DecStr;
    SRow1,SRow2,SRow3,SRow4,SRow5,SRow6,SRow7,SRow8,SRow9 : DecStr;
     SRow10,SRow11,SRow12,SRow13,SRow14,SRow15,SRow16,SRow17 : DecStr;
   ERow1,ERow2,ERow3,ERow4,ERow5,ERow6,ERow7,ERow8,ERow9 : DecStr;
    ERow10,ERow11,ERow12,ERow13,ERow14,ERow15,ERow16,ERow17 : DecStr;
  SCol1,SCol2,ECol1,ECol2 : DecStr;
  i : integer;
  Format1 : DecForm;

procedure WriteMP;
begin
    outString := Concat ('=DEFINE.NAME("MDS.MP',SYear,'.E.NGD","=R',
                        SRow1,'C',SCol1,':R',ERow1,'C',ECol1,'")');
     writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("MDS.MP',SYear,'.1.NGD","=R',
                        SRow2,'C',SCol1,':R',ERow2,'C',ECol1,'")');
     writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("MDS.MP',SYear,'.2.NGD","=R',
                        SRow3,'C',SCol1,':R',ERow3,'C',ECol1,'")');
     writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("MDS.SSIT',SYear,'.NGD","=R',
                        SRow4,'C',SCol1,':R',ERow4,'C',ECol1,'")');
     writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("MDS.MP',SYear,'.E.TTSD","=R',
                        SRow1,'C',SCol2,':R',ERow1,'C',ECol2,'")');
     writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("MDS.MP',SYear,'.1.TTSD","=R',
                        SRow2,'C',SCol2,':R',ERow2,'C',ECol2,'")');
     writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("MDS.MP',SYear,'.2.TTSD","=R',
                        SRow3,'C',SCol2,':R',ERow3,'C',ECol2,'")');
     writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("MDS.SSIT',SYear,'.TTSD","=R',
                        SRow4,'C',SCol2,':R',ERow4,'C',ECol2,'")');
     writeln (outfile,outString);
  end; {WriteMP}

procedure WriteNOP;
 begin
    outString := Concat ('=DEFINE.NAME("MDS.NOP',SYear,'.E.NGD","=R',
                        SRow5,'C',SCol1,':R',ERow5,'C',ECol1,'")');
     writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("MDS.NOP',SYear,'.1.NGD","=R',
                        SRow6,'C',SCol1,':R',ERow6,'C',ECol1,'")');
     writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("MDS.NOP',SYear,'.2.NGD","=R',
                        SRow7,'C',SCol1,':R',ERow7,'C',ECol1,'")');
     writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("MDS.UFOIT',SYear,'.NGD","=R',
                        SRow8,'C',SCol1,':R',ERow8,'C',ECol1,'")');
     writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("MDS.NOP',SYear,'.E.TTSD","=R',
                        SRow5,'C',SCol2,':R',ERow5,'C',ECol2,'")');
     writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("MDS.NOP',SYear,'.1.TTSD","=R',
                        SRow6,'C',SCol2,':R',ERow6,'C',ECol2,'")');
     writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("MDS.NOP',SYear,'.2.TTSD","=R',
                        SRow7,'C',SCol2,':R',ERow7,'C',ECol2,'")');
     writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("MDS.UFOIT',SYear,'.TTSD","=R',
                        SRow8,'C',SCol2,':R',ERow8,'C',ECol2,'")');
     writeln (outfile,outString);
 end;  {WriteNOP}

procedure WriteCT;
begin
    outString := Concat ('=DEFINE.NAME("MDS.CT',SYear,'.E.NGD","=R',
                        SRow9,'C',SCol1,':R',ERow9,'C',ECol1,'")');
     writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("MDS.CT',SYear,'.1.NGD","=R',
                        SRow10,'C',SCol1,':R',ERow10,'C',ECol1,'")');
     writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("MDS.CT',SYear,'.2.NGD","=R',
                        SRow11,'C',SCol1,':R',ERow11,'C',ECol1,'")');
     writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("MDS.CT',SYear,'.E.TTSD","=R',
                        SRow9,'C',SCol2,':R',ERow9,'C',ECol2,'")');
     writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("MDS.CT',SYear,'.1.TTSD","=R',
                        SRow10,'C',SCol2,':R',ERow10,'C',ECol2,'")');
     writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("MDS.CT',SYear,'.2.TTSD","=R',
                        SRow11,'C',SCol2,':R',ERow11,'C',ECol2,'")');
     writeln (outfile,outString);
 end;  {WriteCT}

procedure WriteMM;
begin
    outString := Concat ('=DEFINE.NAME("MDS.MM',SYear,'.E.NGD","=R',
                        SRow12,'C',SCol1,':R',ERow12,'C',ECol1,'")');
     writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("MDS.MM',SYear,'.1.NGD","=R',
                        SRow13,'C',SCol1,':R',ERow13,'C',ECol1,'")');
     writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("MDS.MM',SYear,'.2.NGD","=R',
                        SRow14,'C',SCol1,':R',ERow14,'C',ECol1,'")');
     writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("MDS.MM',SYear,'.E.TTSD","=R',
                        SRow12,'C',SCol2,':R',ERow12,'C',ECol2,'")');
     writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("MDS.MM',SYear,'.1.TTSD","=R',
                        SRow13,'C',SCol2,':R',ERow13,'C',ECol2,'")');
     writeln (outfile,outString);
     outString := Concat ('=DEFINE.NAME("MDS.MM',SYear,'.2.TTSD","=R',
                          SRow14,'C',SCol2,':R',ERow14,'C',ECol2,'")');
      writeln (outfile,outString);
  end;  {WriteMM}

procedure WriteCHT;
 begin
    outString := Concat ('=DEFINE.NAME("MDS.CHT',SYear,'.E.NGD","=R',
                          SRow15,'C',SCol1,':R',ERow15,'C',ECol1,'")');
      writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("MDS.CHT',SYear,'.1.NGD","=R',
                          SRow16,'C',SCol1,':R',ERow16,'C',ECol1,'")');
      writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("MDS.CHT',SYear,'.2.NGD","=R',
                          SRow17,'C',SCol1,':R',ERow17,'C',ECol1,'")');
      writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("MDS.CHT',SYear,'.E.TTSD","=R',
                          SRow15,'C',SCol2,':R',ERow15,'C',ECol2,'")');
      writeln (outfile,outString);
     outString := Concat ('=DEFINE.NAME("MDS.CHT',SYear,'.1.TTSD","=R',
                          SRow16,'C',SCol2,':R',ERow16,'C',ECol2,'")');
      writeln (outfile,outString);
     outString := Concat ('=DEFINE.NAME("MDS.CHT',SYear,'.2.TTSD","=R',
                          SRow17,'C',SCol2,':R',ERow17,'C',ECol2,'")');
      writeln (outfile,outString);
  end;  {WriteCHT}

begin {main}
    outFileName := 'Internal Drive:Staff Planning:Working Plan:MDSRanges';
     rewrite (outfile,outFileName);
   Format1.Style := FixedDecimal;
   Format1.Digits := 0;
   for i := 0 to numberOfYears-1 do
   begin
          Num2Str(Format1,Num2Extended(startYear+i),SYear);
            Num2Str(Format1,Num2Extended(startRow1+(rowIncr*i)),SRow1);
            Num2Str(Format1,Num2Extended(startRow2+(rowIncr*i)),SRow2);
            Num2Str(Format1,Num2Extended(startRow3+(rowIncr*i)),SRow3);
            Num2Str(Format1,Num2Extended(startRow4+(rowIncr*i)),SRow4);
            Num2Str(Format1,Num2Extended(startRow5+(rowIncr*i)),SRow5);
            Num2Str(Format1,Num2Extended(startRow6+(rowIncr*i)),SRow6);
            Num2Str(Format1,Num2Extended(startRow7+(rowIncr*i)),SRow7);
            Num2Str(Format1,Num2Extended(startRow8+(rowIncr*i)),SRow8);
            Num2Str(Format1,Num2Extended(startRow9+(rowIncr*i)),SRow9);
            Num2Str(Format1,Num2Extended(startRow10+(rowIncr*i)),SRow10);
            Num2Str(Format1,Num2Extended(startRow11+(rowIncr*i)),SRow11);
            Num2Str(Format1,Num2Extended(startRow12+(rowIncr*i)),SRow12);
            Num2Str(Format1,Num2Extended(startRow13+(rowIncr*i)),SRow13);
            Num2Str(Format1,Num2Extended(startRow14+(rowIncr*i)),SRow14);
            Num2Str(Format1,Num2Extended(startRow15+(rowIncr*i)),SRow15);
            Num2Str(Format1,Num2Extended(startRow16+(rowIncr*i)),SRow16);
            Num2Str(Format1,Num2Extended(startRow17+(rowIncr*i)),SRow17);
           Num2Str(Format1,Num2Extended(endRow1+(rowIncr*i)),ERow1);
           Num2Str(Format1,Num2Extended(endRow2+(rowIncr*i)),ERow2);
```

```
            Num2Str(Format1,Num2Extended(endRow3+(rowIncr*i)),ERow3);
            Num2Str(Format1,Num2Extended(endRow4+(rowIncr*i)),ERow4);
            Num2Str(Format1,Num2Extended(endRow5+(rowIncr*i)),ERow5);
            Num2Str(Format1,Num2Extended(endRow6+(rowIncr*i)),ERow6);
            Num2Str(Format1,Num2Extended(endRow7+(rowIncr*i)),ERow7);
            Num2Str(Format1,Num2Extended(endRow8+(rowIncr*i)),ERow8);
            Num2Str(Format1,Num2Extended(endRow9+(rowIncr*i)),ERow9);
            Num2Str(Format1,Num2Extended(endRow10+(rowIncr*i)),ERow10);
            Num2Str(Format1,Num2Extended(endRow11+(rowIncr*i)),ERow11);
            Num2Str(Format1,Num2Extended(endRow12+(rowIncr*i)),ERow12);
            Num2Str(Format1,Num2Extended(endRow13+(rowIncr*i)),ERow13);
            Num2Str(Format1,Num2Extended(endRow14+(rowIncr*i)),ERow14);
            Num2Str(Format1,Num2Extended(endRow15+(rowIncr*i)),ERow15);
            Num2Str(Format1,Num2Extended(endRow16+(rowIncr*i)),ERow16);
            Num2Str(Format1,Num2Extended(endRow17+(rowIncr*i)),ERow17);
             Num2Str(Format1,Num2Extended(startCol1+(colIncr*i)),SCol1);
             Num2Str(Format1,Num2Extended(startCol2+(colIncr*i)),SCol2);
           Num2Str(Format1,Num2Extended(endCol1+(colIncr*i)),ECol1);
           Num2Str(Format1,Num2Extended(endCol2+(colIncr*i)),ECol2);
       WriteMP;
      WriteNOP;
       WriteCT;
       WriteMM;
      WriteCHT;
    end;  {for}
   outString := '=RETURN()';
     writeln (outfile,outString);
   close (outfile);
end.
```

2.5.26. NTCRangesProgram

```
program NTCRanges;

 uses
   SANE;

 const
    startYear = 1;
   numberOfYears = 11;
    rowIncr = 0;
   colIncr = 14;
    startRow1  = 8;
    startRow2  = 9;
    startRow3  = 10;
    startRow4  = 15;
    startRow5  = 16;
    startRow6  = 17;
    startRow7  = 22;
    startRow8  = 23;
    startRow9  = 24;
    startRow10 = 29;
    startRow11 = 30;
    startRow12 = 31;
    startRow13 = 36;
    startRow14 = 37;
    startRow15 = 38;
    startRow16 = 59;
    startRow17 = 60;
    startRow18 = 61;
    startRow19 = 66;
    startRow20 = 67;
    startRow21 = 68;
    startRow22 = 73;
    startRow23 = 74;
    startRow24 = 75;
    startRow25 = 80;
    startRow26 = 81;
    startRow27 = 82;
    startRow28 = 87;
    startRow29 = 88;
    startRow30 = 89;
  endRow1  = 8;
  endRow2  = 9;
  endRow3  = 10;
  endRow4  = 15;
  endRow5  = 16;
  endRow6  = 17;
  endRow7  = 22;
  endRow8  = 23;
  endRow9  = 24;
  endRow10 = 29;
  endRow11 = 30;
  endRow12 = 31;
  endRow13 = 36;
  endRow14 = 37;
  endRow15 = 38;
  endRow16 = 59;
  endRow17 = 60;
  endRow18 = 61;
  endRow19 = 66;
  endRow20 = 67;
  endRow21 = 68;
  endRow22 = 73;
  endRow23 = 74;
  endRow24 = 75;
  endRow25 = 80;
  endRow26 = 81;
  endRow27 = 82;
  endRow28 = 87;
  endRow29 = 88;
  endRow30 = 89;
   startCol1 = 5;
  endCol1 = 9;
  endCol2 = 10;

var
   outfile : text;
   outFileName : string[80];
    outString : string[255];
  SYear : DecStr;
     SRow1,SRow2,SRow3,SRow4,SRow5,SRow6,SRow7,SRow8,SRow9 : DecStr;
      SRow10,SRow11,SRow12,SRow13,SRow14,SRow15,SRow16,SRow17 : DecStr;
      SRow18,SRow19,SRow20,SRow21,SRow22,SRow23,SRow24,SRow25 : DecStr;
     SRow26,SRow27,SRow28,SRow29,SRow30 : DecStr;
    ERow1,ERow2,ERow3,ERow4,ERow5,ERow6,ERow7,ERow8,ERow9 : DecStr;
     ERow10,ERow11,ERow12,ERow13,ERow14,ERow15,ERow16,ERow17 : DecStr;
     ERow18,ERow19,ERow20,ERow21,ERow22,ERow23,ERow24,ERow25 : DecStr;
    ERow26,ERow27,ERow28,ERow29,ERow30 : DecStr;
  SCol1,ECol1,ECol2 : DecStr;
  i : integer;
  Format1 : DecForm;

procedure WriteMP;
begin
     outString := Concat ('=DEFINE.NAME("NTC.MP',SYear,'.0.WNTC","=R',
                         SRow1,'C',SCol1,':R',ERow1,'C',ECol1,'")');
      writeln (outfile,outString);
     outString := Concat ('=DEFINE.NAME("NTC.MP',SYear,'.1.WNTC","=R',
                         SRow2,'C',SCol1,':R',ERow2,'C',ECol1,'")');
      writeln (outfile,outString);
     outString := Concat ('=DEFINE.NAME("NTC.MP',SYear,'.2.WNTC","=R',
                         SRow3,'C',SCol1,':R',ERow3,'C',ECol1,'")');
      writeln (outfile,outString);
     outString := Concat ('=DEFINE.NAME("NTC.MP',SYear,'.0.ENTC","=R',
                         SRow16,'C',SCol1,':R',ERow16,'C',ECol2,'")');
      writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("NTC.MP',SYear,'.1.ENTC","=R',
                        SRow17,'C',SCol1,':R',ERow17,'C',ECol2,'")');
     writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("NTC.MP',SYear,'.2.ENTC","=R',
                        SRow18,'C',SCol1,':R',ERow18,'C',ECol2,'")');
     writeln (outfile,outString);
 end;  {WriteMP}

procedure WriteNOP;
begin
    outString := Concat ('=DEFINE.NAME("NTC.NOP',SYear,'.0.WNTC","=R',
                        SRow4,'C',SCol1,':R',ERow4,'C',ECol1,'")');
     writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("NTC.NOP',SYear,'.1.WNTC","=R',
                        SRow5,'C',SCol1,':R',ERow5,'C',ECol1,'")');
     writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("NTC.NOP',SYear,'.2.WNTC","=R',
                        SRow6,'C',SCol1,':R',ERow6,'C',ECol1,'")');
     writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("NTC.NOP',SYear,'.0.ENTC","=R',
                        SRow19,'C',SCol1,':R',ERow19,'C',ECol2,'")');
     writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("NTC.NOP',SYear,'.1.ENTC","=R',
                        SRow20,'C',SCol1,':R',ERow20,'C',ECol2,'")');
     writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("NTC.NOP',SYear,'.2.ENTC","=R',
                        SRow21,'C',SCol1,':R',ERow21,'C',ECol2,'")');
     writeln (outfile,outString);
 end;  {WriteNOP}

procedure WriteCT;
begin
    outString := Concat ('=DEFINE.NAME("NTC.CT',SYear,'.0.WNTC","=R',
                        SRow7,'C',SCol1,':R',ERow7,'C',ECol1,'")');
     writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("NTC.CT',SYear,'.1.WNTC","=R',
                        SRow8,'C',SCol1,':R',ERow8,'C',ECol1,'")');
     writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("NTC.CT',SYear,'.2.WNTC","=R',
                        SRow9,'C',SCol1,':R',ERow9,'C',ECol1,'")');
     writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("NTC.CT',SYear,'.0.ENTC","=R',
                        SRow22,'C',SCol1,':R',ERow22,'C',ECol2,'")');
     writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("NTC.CT',SYear,'.1.ENTC","=R',
                        SRow23,'C',SCol1,':R',ERow23,'C',ECol2,'")');
     writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("NTC.CT',SYear,'.2.ENTC","=R',
                        SRow24,'C',SCol1,':R',ERow24,'C',ECol2,'")');
     writeln (outfile,outString);
 end;  {WriteCT}
```

```
procedure WriteMM;
begin
    outString := Concat ('=DEFINE.NAME("NTC.MM',SYear,'.0.WNTC","=R',
                      SRow10,'C',SCol1,':R',ERow10,'C',ECol1,'")');
     writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("NTC.MM',SYear,'.1.WNTC","=R',
                      SRow11,'C',SCol1,':R',ERow11,'C',ECol1,'")');
     writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("NTC.MM',SYear,'.2.WNTC","=R',
                      SRow12,'C',SCol1,':R',ERow12,'C',ECol1,'")');
     writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("NTC.MM',SYear,'.0.ENTC","=R',
                      SRow25,'C',SCol1,':R',ERow25,'C',ECol2,'")');
     writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("NTC.MM',SYear,'.1.ENTC","=R',
                      SRow26,'C',SCol1,':R',ERow26,'C',ECol2,'")');
     writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("NTC.MM',SYear,'.2.ENTC","=R',
                      SRow27,'C',SCol1,':R',ERow27,'C',ECol2,'")');
     writeln (outfile,outString);
 end; {WriteMM}

procedure WriteCHT;
begin
    outString := Concat ('=DEFINE.NAME("NTC.CHT',SYear,'.0.WNTC","=R',
                      SRow13,'C',SCol1,':R',ERow13,'C',ECol1,'")');
     writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("NTC.CHT',SYear,'.1.WNTC","=R',
                      SRow14,'C',SCol1,':R',ERow14,'C',ECol1,'")');
     writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("NTC.CHT',SYear,'.2.WNTC","=R',
                      SRow15,'C',SCol1,':R',ERow15,'C',ECol1,'")');
     writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("NTC.CHT',SYear,'.0.ENTC","=R',
                      SRow28,'C',SCol1,':R',ERow28,'C',ECol2,'")');
     writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("NTC.CHT',SYear,'.1.ENTC","=R',
                      SRow29,'C',SCol1,':R',ERow29,'C',ECol2,'")');
     writeln (outfile,outString);
    outString := Concat ('=DEFINE.NAME("NTC.CHT',SYear,'.2.ENTC","=R',
                      SRow30,'C',SCol1,':R',ERow30,'C',ECol2,'")');
     writeln (outfile,outString);
 end; {WriteCHT}

begin {main}
   outFileName := 'Internal Drive:Staff Planning:Working Plan:NTCRanges';
    rewrite (outfile,outFileName);
   Format1.Style := FixedDecimal;
   Format1.Digits := 0;
   for i := 0 to numberOfYears-1 do
   begin
        Num2Str(Format1,Num2Extended(startYear+i),SYear);
          Num2Str(Format1,Num2Extended(startRow1+(rowIncr*i)),SRow1);
          Num2Str(Format1,Num2Extended(startRow2+(rowIncr*i)),SRow2);
 Num2Str(Format1,Num2Extended(startRow3+(rowIncr*i)),SRow3);
 Num2Str(Format1,Num2Extended(startRow4+(rowIncr*i)),SRow4);
 Num2Str(Format1,Num2Extended(startRow5+(rowIncr*i)),SRow5);
 Num2Str(Format1,Num2Extended(startRow6+(rowIncr*i)),SRow6);
 Num2Str(Format1,Num2Extended(startRow7+(rowIncr*i)),SRow7);
 Num2Str(Format1,Num2Extended(startRow8+(rowIncr*i)),SRow8);
 Num2Str(Format1,Num2Extended(startRow9+(rowIncr*i)),SRow9);
 Num2Str(Format1,Num2Extended(startRow10+(rowIncr*i)),SRow10);
 Num2Str(Format1,Num2Extended(startRow11+(rowIncr*i)),SRow11);
 Num2Str(Format1,Num2Extended(startRow12+(rowIncr*i)),SRow12);
 Num2Str(Format1,Num2Extended(startRow13+(rowIncr*i)),SRow13);
 Num2Str(Format1,Num2Extended(startRow14+(rowIncr*i)),SRow14);
 Num2Str(Format1,Num2Extended(startRow15+(rowIncr*i)),SRow15);
 Num2Str(Format1,Num2Extended(startRow16+(rowIncr*i)),SRow16);
 Num2Str(Format1,Num2Extended(startRow17+(rowIncr*i)),SRow17);
 Num2Str(Format1,Num2Extended(startRow18+(rowIncr*i)),SRow18);
 Num2Str(Format1,Num2Extended(startRow19+(rowIncr*i)),SRow19);
 Num2Str(Format1,Num2Extended(startRow20+(rowIncr*i)),SRow20);
 Num2Str(Format1,Num2Extended(startRow21+(rowIncr*i)),SRow21);
 Num2Str(Format1,Num2Extended(startRow22+(rowIncr*i)),SRow22);
 Num2Str(Format1,Num2Extended(startRow23+(rowIncr*i)),SRow23);
 Num2Str(Format1,Num2Extended(startRow24+(rowIncr*i)),SRow24);
 Num2Str(Format1,Num2Extended(startRow25+(rowIncr*i)),SRow25);
 Num2Str(Format1,Num2Extended(startRow26+(rowIncr*i)),SRow26);
 Num2Str(Format1,Num2Extended(startRow27+(rowIncr*i)),SRow27);
 Num2Str(Format1,Num2Extended(startRow28+(rowIncr*i)),SRow28);
 Num2Str(Format1,Num2Extended(startRow29+(rowIncr*i)),SRow29);
 Num2Str(Format1,Num2Extended(startRow30+(rowIncr*i)),SRow30);
Num2Str(Format1,Num2Extended(endRow1+(rowIncr*i)),ERow1);
Num2Str(Format1,Num2Extended(endRow2+(rowIncr*i)),ERow2);
Num2Str(Format1,Num2Extended(endRow3+(rowIncr*i)),ERow3);
Num2Str(Format1,Num2Extended(endRow4+(rowIncr*i)),ERow4);
Num2Str(Format1,Num2Extended(endRow5+(rowIncr*i)),ERow5);
Num2Str(Format1,Num2Extended(endRow6+(rowIncr*i)),ERow6);
Num2Str(Format1,Num2Extended(endRow7+(rowIncr*i)),ERow7);
Num2Str(Format1,Num2Extended(endRow8+(rowIncr*i)),ERow8);
Num2Str(Format1,Num2Extended(endRow9+(rowIncr*i)),ERow9);
Num2Str(Format1,Num2Extended(endRow10+(rowIncr*i)),ERow10);
Num2Str(Format1,Num2Extended(endRow11+(rowIncr*i)),ERow11);
Num2Str(Format1,Num2Extended(endRow12+(rowIncr*i)),ERow12);
Num2Str(Format1,Num2Extended(endRow13+(rowIncr*i)),ERow13);
Num2Str(Format1,Num2Extended(endRow14+(rowIncr*i)),ERow14);
Num2Str(Format1,Num2Extended(endRow15+(rowIncr*i)),ERow15);
Num2Str(Format1,Num2Extended(endRow16+(rowIncr*i)),ERow16);
Num2Str(Format1,Num2Extended(endRow17+(rowIncr*i)),ERow17);
Num2Str(Format1,Num2Extended(endRow18+(rowIncr*i)),ERow18);
Num2Str(Format1,Num2Extended(endRow19+(rowIncr*i)),ERow19);
Num2Str(Format1,Num2Extended(endRow20+(rowIncr*i)),ERow20);
Num2Str(Format1,Num2Extended(endRow21+(rowIncr*i)),ERow21);
Num2Str(Format1,Num2Extended(endRow22+(rowIncr*i)),ERow22);
Num2Str(Format1,Num2Extended(endRow23+(rowIncr*i)),ERow23);
Num2Str(Format1,Num2Extended(endRow24+(rowIncr*i)),ERow24);
Num2Str(Format1,Num2Extended(endRow25+(rowIncr*i)),ERow25);
Num2Str(Format1,Num2Extended(endRow26+(rowIncr*i)),ERow26);
```

```
            Num2Str(Format1,Num2Extended(endRow27+(rowIncr*i)),ERow27);
            Num2Str(Format1,Num2Extended(endRow28+(rowIncr*i)),ERow28);
            Num2Str(Format1,Num2Extended(endRow29+(rowIncr*i)),ERow29);
            Num2Str(Format1,Num2Extended(endRow30+(rowIncr*i)),ERow30);
            Num2Str(Format1,Num2Extended(startCol1+(colIncr*i)),SCol1);
           Num2Str(Format1,Num2Extended(endCol1+(colIncr*i)),ECol1);
           Num2Str(Format1,Num2Extended(endCol2+(colIncr*i)),ECol2);
      WriteMP;
     WriteNOP;
      WriteCT;
      WriteMM;
     WriteCHT;
    end;  {for}
   outString := '=RETURN()';
     writeln (outfile,outString);
   close (outfile);
end.
```

2.5.27. HireNTCRangesProgram

```
program HireNTCRanges;

uses
  SANE;

const
    startYear = 1;
   numberOfYears = 10;
    rowIncr = 0;
   colIncr = 14;
    startRow1  = 8;
    startRow2  = 15;
    startRow3  = 22;
    startRow4 = 29;
    startRow5 = 36;
    startRow6 = 59;
    startRow7 = 66;
    startRow8 = 73;
    startRow9 = 80;
     startRow10 = 87;
   endRow1  = 11;
   endRow2  = 17;
   endRow3  = 24;
   endRow4  = 31;
   endRow5  = 38;
   endRow6  = 61;
   endRow7  = 68;
   endRow8  = 75;
   endRow9  = 82;
   endRow10 = 89;
    startCol1 = 11;
   endCol1 = 11;

var
    outfile : text;
    outFileName : string[80];
     outString : string[255];
   SYear : DecStr;
     SRow1,SRow2,SRow3,SRow4,SRow5,SRow6,SRow7,SRow8,SRow9,SRow10 : DecStr;
    ERow1,ERow2,ERow3,ERow4,ERow5,ERow6,ERow7,ERow8,ERow9,ERow10 : DecStr;
   SCol1,ECol1 : DecStr;
   i : integer;
   Format1 : DecForm;

 procedure WriteMP;
 begin
      outString := Concat ('=DEFINE.NAME("NTC.MP',SYear,'.T.WNTC","=R',
                        SRow1,'C',SCol1,':R',ERow1,'C',ECol1,'")');
       writeln (outfile,outString);
      outString := Concat ('=DEFINE.NAME("NTC.MP',SYear,'.T.ENTC","=R',
                        SRow6,'C',SCol1,':R',ERow6,'C',ECol1,'")');
      writeln (outfile,outString);
   end; {WriteMP}

 procedure WriteNOP;
  begin
      outString := Concat ('=DEFINE.NAME("NTC.NOP',SYear,'.T.WNTC","=R',
                              SRow2,'C',SCol1,':R',ERow2,'C',ECol1,'"')');
       writeln (outfile,outString);
      outString := Concat ('=DEFINE.NAME("NTC.NOP',SYear,'.T.ENTC","=R',
                              SRow7,'C',SCol1,':R',ERow7,'C',ECol1,'"')');
       writeln (outfile,outString);
   end; {WriteNOP}

  procedure WriteCT;
  begin
      outString := Concat ('=DEFINE.NAME("NTC.CT',SYear,'.T.WNTC","=R',
                              SRow3,'C',SCol1,':R',ERow3,'C',ECol1,'"')');
       writeln (outfile,outString);
      outString := Concat ('=DEFINE.NAME("NTC.CT',SYear,'.T.ENTC","=R',
                              SRow8,'C',SCol1,':R',ERow8,'C',ECol1,'"')');
       writeln (outfile,outString);
   end; {WriteCT}

  procedure WriteMM;
  begin
      outString := Concat ('=DEFINE.NAME("NTC.MM',SYear,'.T.WNTC","=R',
                              SRow4,'C',SCol1,':R',ERow4,'C',ECol1,'"')');
       writeln (outfile,outString);
      outString := Concat ('=DEFINE.NAME("NTC.MM',SYear,'.T.ENTC","=R',
                              SRow9,'C',SCol1,':R',ERow9,'C',ECol1,'"')');
       writeln (outfile,outString);
   end; {WriteMM}

 procedure WriteCHT;
  begin
      outString := Concat ('=DEFINE.NAME("NTC.CHT',SYear,'.T.WNTC","=R',
                              SRow5,'C',SCol1,':R',ERow5,'C',ECol1,'"')');
       writeln (outfile,outString);
      outString := Concat ('=DEFINE.NAME("NTC.CHT',SYear,'.T.ENTC","=R',
                              SRow10,'C',SCol1,':R',ERow10,'C',ECol1,'"')');
       writeln (outfile,outString);
   end; {WriteCHT}

begin {main}
     outFileName := 'Internal Drive:Staff Planning:Working Plan:HireNTCRanges';
     rewrite (outfile,outFileName);
    Format1.Style := FixedDecimal;
    Format1.Digits := 0;
    for i := 0 to numberOfYears-1 do
     begin
          Num2Str(Format1,Num2Extended(startYear+i),SYear);
            Num2Str(Format1,Num2Extended(startRow1+(rowIncr*i)),SRow1);
            Num2Str(Format1,Num2Extended(startRow2+(rowIncr*i)),SRow2);
            Num2Str(Format1,Num2Extended(startRow3+(rowIncr*i)),SRow3);
```

```
              Num2Str(Format1,Num2Extended(startRow4+(rowIncr*i)),SRow4);
              Num2Str(Format1,Num2Extended(startRow5+(rowIncr*i)),SRow5);
              Num2Str(Format1,Num2Extended(startRow6+(rowIncr*i)),SRow6);
              Num2Str(Format1,Num2Extended(startRow7+(rowIncr*i)),SRow7);
              Num2Str(Format1,Num2Extended(startRow8+(rowIncr*i)),SRow8);
              Num2Str(Format1,Num2Extended(startRow9+(rowIncr*i)),SRow9);
              Num2Str(Format1,Num2Extended(startRow10+(rowIncr*i)),SRow10);
             Num2Str(Format1,Num2Extended(endRow1+(rowIncr*i)),ERow1);
             Num2Str(Format1,Num2Extended(endRow2+(rowIncr*i)),ERow2);
             Num2Str(Format1,Num2Extended(endRow3+(rowIncr*i)),ERow3);
             Num2Str(Format1,Num2Extended(endRow4+(rowIncr*i)),ERow4);
             Num2Str(Format1,Num2Extended(endRow5+(rowIncr*i)),ERow5);
             Num2Str(Format1,Num2Extended(endRow6+(rowIncr*i)),ERow6);
             Num2Str(Format1,Num2Extended(endRow7+(rowIncr*i)),ERow7);
             Num2Str(Format1,Num2Extended(endRow8+(rowIncr*i)),ERow8);
             Num2Str(Format1,Num2Extended(endRow9+(rowIncr*i)),ERow9);
             Num2Str(Format1,Num2Extended(endRow10+(rowIncr*i)),ERow10);
              Num2Str(Format1,Num2Extended(startCol1+(colIncr*i)),SCol1);
             Num2Str(Format1,Num2Extended(endCol1+(colIncr*i)),ECol1);
      WriteMP;
      WriteNOP;
      WriteCT;
      WriteMM;
      WriteCHT;
    end;  {for}
   outString := '=RETURN()';
     writeln (outfile,outString);
   close (outfile);
end.
```

2.5.28. HireRangesProgram

```
program HireRanges;

uses
 SANE;

const
   startYear = 1;
  numberOfYears = 10;
   rowIncr = 0;
  colIncr = 1;
   startRow1  = 17;
   startRow2  = 23;
   startRow3  = 29;
   startRow4 = 35;
   startRow5 = 41;
  endRow1  = 19;
  endRow2  = 25;
  endRow3  = 31;
  endRow4  = 37;
  endRow5  = 43;
   startCol1 = 2;
  endCol1 = 2;

var
   outfile : text;
   outFileName : string[80];
    outString : string[255];
  SYear : DecStr;
     SRow1,SRow2,SRow3,SRow4,SRow5,SRow6,SRow7,SRow8,SRow9,SRow10 : DecStr;
   ERow1,ERow2,ERow3,ERow4,ERow5,ERow6,ERow7,ERow8,ERow9,ERow10 : DecStr;
  SCol1,ECol1 : DecStr;
  i : integer;
  Format1 : DecForm;

 procedure WriteMP;
 begin
      outString := Concat ('=DEFINE.NAME("Hire.MP',SYear,'","=R',
                      SRow1,'C',SCol1,':R',ERow1,'C',ECol1,'")');
      writeln (outfile,outString);
  end;  {WriteMP}

procedure WriteNOP;
 begin
     outString := Concat ('=DEFINE.NAME("Hire.NOP',SYear,'","=R',
                      SRow2,'C',SCol1,':R',ERow2,'C',ECol1,'")');
      writeln (outfile,outString);
  end;  {WriteNOP}
```

```
procedure WriteCT;
begin
    outString := Concat ('=DEFINE.NAME("Hire.CT',SYear,'"',"=R',
                    SRow3,'C',SCol1,':R',ERow3,'C',ECol1,'"')');
    writeln (outfile,outString);
 end;  {WriteCT}

procedure WriteMM;
begin
    outString := Concat ('=DEFINE.NAME("Hire.MM',SYear,'"',"=R',
                    SRow4,'C',SCol1,':R',ERow4,'C',ECol1,'"')');
    writeln (outfile,outString);
 end;  {WriteMM}

procedure WriteCHT;
begin
    outString := Concat ('=DEFINE.NAME("Hire.CHT',SYear,'"',"=R',
                    SRow5,'C',SCol1,':R',ERow5,'C',ECol1,'"')');
    writeln (outfile,outString);
 end;  {WriteCHT}

begin {main}
   outFileName := 'Internal Drive:Staff Planning:Working Plan:HireRanges';
   rewrite (outfile,outFileName);
  Format1.Style := FixedDecimal;
  Format1.Digits := 0;
  for i := 0 to numberOfYears-1 do
  begin
       Num2Str(Format1,Num2Extended(startYear+i),SYear);
        Num2Str(Format1,Num2Extended(startRow1+(rowIncr*i)),SRow1);
        Num2Str(Format1,Num2Extended(startRow2+(rowIncr*i)),SRow2);
        Num2Str(Format1,Num2Extended(startRow3+(rowIncr*i)),SRow3);
        Num2Str(Format1,Num2Extended(startRow4+(rowIncr*i)),SRow4);
        Num2Str(Format1,Num2Extended(startRow5+(rowIncr*i)),SRow5);
       Num2Str(Format1,Num2Extended(endRow1+(rowIncr*i)),ERow1);
       Num2Str(Format1,Num2Extended(endRow2+(rowIncr*i)),ERow2);
       Num2Str(Format1,Num2Extended(endRow3+(rowIncr*i)),ERow3);
       Num2Str(Format1,Num2Extended(endRow4+(rowIncr*i)),ERow4);
       Num2Str(Format1,Num2Extended(endRow5+(rowIncr*i)),ERow5);
        Num2Str(Format1,Num2Extended(startCol1+(colIncr*i)),SCol1);
       Num2Str(Format1,Num2Extended(endCol1+(colIncr*i)),ECol1);
    WriteMP;
    WriteNOP;
    WriteCT;
    WriteMM;
    WriteCHT;
   end;  {for}
  outString := '=RETURN()';
    writeln (outfile,outString);
  close (outfile);
end.
```

2.5.29. MDSLinksProgram

```
program MDSLinks;

uses
  SANE;

const
   startYear = 1;
  numberOfYears = 10;

var
   outfile : text;
   outFileName : string[80];
    outString : string[255];
   SYear,SYear1,SYear2 : DecStr;
  i : integer;
  Format1 : DecForm;

 procedure WriteMP;
  const
      SrceFile = '''M&P''';
 begin
     outString := Concat ('=SELECT(!MDS.MP',SYear,'.E.NGD)');
      writeln (outfile,outString);
      outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!MP',SYear1,'.NGD2)")');
      writeln (outfile,outString);
     outString := Concat ('=SELECT(!MDS.MP',SYear,'.1.NGD)');
      writeln (outfile,outString);
      outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!MP',SYear1,'.NGD1)")');
      writeln (outfile,outString);
     outString := Concat ('=SELECT(!MDS.MP  SYear,'.2.NGD)');
      writeln (outfile,outString);
      outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!MP',SYear2,'.NGD2)")');
      writeln (outfile,outString);
     outString := Concat ('=SELECT(!MDS.MP',SYear,'.E.TTSD)');
      writeln (outfile,outString);
      outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!MP',SYear1,'.TTSD2)")');
      writeln (outfile,outString);
     outString := Concat ('=SELECT(!MDS.MP',SYear,'.1.TTSD)');
      writeln (outfile,outString);
      outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!MP',SYear1,'.TTSD1)")');
      writeln (outfile,outString);
     outString := Concat ('=SELECT(!MDS.MP',SYear,'.2.TTSD)');
      writeln (outfile,outString);
      outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!MP',SYear2,'.TTSD2)")');
      writeln (outfile,outString);
     outString := Concat ('=SELECT(!MDS.SSIT',SYear,'.NGD)');
      writeln (outfile,outString);
      outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!SSIT',SYear,'.NGD)")');
      writeln (outfile,outString);
     outString := Concat ('=SELECT(!MDS.SSIT',SYear,'.TTSD)');
      writeln (outfile,outString);
      outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!SSIT',SYear,'.TTSD)")');
      writeln (outfile,outString);
  end;  {WriteMP}

procedure WriteNOP;
 const
    SrceFile = "'NOP'";
 begin
     outString := Concat ('=SELECT(!MDS.NOP',SYear,'.E.NGD)');
       writeln (outfile,outString);
       outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!NOP',SYear1,'.NGD2)")');
       writeln (outfile,outString);
     outString := Concat ('=SELECT(!MDS.NOP',SYear,'.1.NGD)');
       writeln (outfile,outString);
       outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!NOP',SYear1,'.NGD1)")');
       writeln (outfile,outString);
     outString := Concat ('=SELECT(!MDS.NOP',SYear,'.2.NGD)');
       writeln (outfile,outString);
       outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!NOP',SYear2,'.NGD2)")');
       writeln (outfile,outString);
     outString := Concat ('=SELECT(!MDS.NOP',SYear,'.E.TTSD)');
       writeln (outfile,outString);
       outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!NOP',SYear1,'.TTSD2)")');
       writeln (outfile,outString);
     outString := Concat ('=SELECT(!MDS.NOP',SYear,'.1.TTSD)');
       writeln (outfile,outString);
       outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!NOP',SYear1,'.TTSD1)")');
       writeln (outfile,outString);
     outString := Concat ('=SELECT(!MDS.NOP',SYear,'.2.TTSD)');
       writeln (outfile,outString);
       outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!NOP',SYear2,'.TTSD2)")');
       writeln (outfile,outString);
     outString := Concat ('=SELECT(!MDS.UFOIT',SYear,'.NGD)');
       writeln (outfile,outString);
       outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!UFOIT',SYear,'.NGD)")');
       writeln (outfile,outString);
     outString := Concat ('=SELECT(!MDS.UFOIT',SYear,'.TTSD)');
       writeln (outfile,outString);
       outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!UFOIT',SYear,'.TTSD)")');
       writeln (outfile,outString);
 end;  {WriteNOP}

procedure WriteCT;
 const
    SrceFile = "'CT'";
 begin
     outString := Concat ('=SELECT(!MDS.CT',SYear,'.E.NGD)');
       writeln (outfile,outString);
       outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!CT',SYear1,'.NGD2)")');
       writeln (outfile,outString);
     outString := Concat ('=SELECT(!MDS.CT',SYear,'.1.NGD)');
       writeln (outfile,outString);
       outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!CT',SYear1,'.NGD1)")');
       writeln (outfile,outString);
    outString := Concat ('=SELECT(!MDS.CT',SYear,'.2.NGD)');
     writeln (outfile,outString);
     outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!CT',SYear2,'.NGD2)")');
     writeln (outfile,outString);
    outString := Concat ('=SELECT(!MDS.CT',SYear,'.E.TTSD)');
     writeln (outfile,outString);
     outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!CT',SYear1,'.TTSD2)")');
     writeln (outfile,outString);
    outString := Concat ('=SELECT(!MDS.CT',SYear,'.1.TTSD)');
     writeln (outfile,outString);
     outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!CT',SYear1,'.TTSD1)")');
     writeln (outfile,outString);
    outString := Concat ('=SELECT(!MDS.CT',SYear,'.2.TTSD)');
     writeln (outfile,outString);
     outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!CT',SYear2,'.TTSD2)")');
     writeln (outfile,outString);
 end;  {WriteCT}

procedure WriteMM;
 const
    SrceFile = '"MM"';
begin
    outString := Concat ('=SELECT(!MDS.MM',SYear,'.E.NGD)');
     writeln (outfile,outString);
     outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!MM',SYear1,'.NGD2)")');
     writeln (outfile,outString);
    outString := Concat ('=SELECT(!MDS.MM',SYear,'.1.NGD)');
     writeln (outfile,outString);
     outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!MM',SYear1,'.NGD1)")');
     writeln (outfile,outString);
    outString := Concat ('=SELECT(!MDS.MM',SYear,'.2.NGD)');
     writeln (outfile,outString);
     outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!MM',SYear2,'.NGD2)")');
     writeln (outfile,outString);
    outString := Concat ('=SELECT(!MDS.MM',SYear,'.E.TTSD)');
     writeln (outfile,outString);
     outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!MM',SYear1,'.TTSD2)")');
     writeln (outfile,outString);
    outString := Concat ('=SELECT(!MDS.MM',SYear,'.1.TTSD)');
     writeln (outfile,outString);
     outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!MM',SYear1,'.TTSD1)")');
     writeln (outfile,outString);
    outString := Concat ('=SELECT(!MDS.MM',SYear,'.2.TTSD)');
     writeln (outfile,outString);
     outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!MM',SYear2,'.TTSD2)")');
     writeln (outfile,outString);
 end;  {WriteMM}

procedure WriteCHT;
 const
    SrceFile = '"CHT"';
begin
    outString := Concat ('=SELECT(!MDS.CHT',SYear,'.E.NGD)');
     writeln (outfile,outString);
```

```
       outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!CHT',SYear1,'.NGD2)")');
       writeln (outfile,outString);
      outString := Concat ('=SELECT(!MDS.CHT',SYear,'.1.NGD)');
       writeln (outfile,outString);
       outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!CHT',SYear1,'.NGD1)")');
       writeln (outfile,outString);
      outString := Concat ('=SELECT(!MDS.CHT',SYear,'.2.NGD)');
       writeln (outfile,outString);
       outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!CHT',SYear2,'.NGD2)")');
       writeln (outfile,outString);
      outString := Concat ('=SELECT(!MDS.CHT',SYear,'.E.TTSD)');
       writeln (outfile,outString);
       outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!CHT',SYear1,'.TTSD2)")');
       writeln (outfile,outString);
      outString := Concat ('=SELECT(!MDS.CHT',SYear,'.1.TTSD)');
       writeln (outfile,outString);
       outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!CHT',SYear1,'.TTSD1)")');
       writeln (outfile,outString);
      outString := Concat ('=SELECT(!MDS.CHT',SYear,'.2.TTSD)');
       writeln (outfile,outString);
       outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!CHT',SYear2,'.TTSD2)")');
       writeln (outfile,outString);
  end;  {WriteCHT}

begin {main}
     outFileName := 'Internal Drive:Staff Planning:Working Plan:MDSLinks';
     rewrite (outfile,outFileName);
    Format1.Style := FixedDecimal;
    Format1.Digits := 0;
    for i := 0 to numberOfYears-1 do
   begin
         Num2Str(Format1,Num2Extended(startYear+i),SYear);
         Num2Str(Format1,Num2Extended(startYear+i+1),SYear1);
         Num2Str(Format1,Num2Extended(startYear+i+2),SYear2);
      WriteMP;
      WriteNOP;
      WriteCT;
      WriteMM;
      WriteCHT;
     end;  {for}
    outString := '=RETURN()';
      writeln (outfile,outString);
    close (outfile);
end.
```

2.5.30. NTCLinksProgram

```
 program NTCLinks;

uses
 SANE;

const
   startYear = 1;
  numberOfYears = 11;

var
   outfile : text;
   outFileName : string[80];
    outString : string[255];
   SYear,SYear1,SYear2 : DecStr;
  i : integer;
  Format1 : DecForm;

 procedure WriteMP;
  const
     SrceFile =  '''M&P''';
 begin
     outString := Concat ('=SELECT(!NTC.MP',SYear,'.0.WNTC)');
      writeln (outfile,outString);
      outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!MP',SYear,'.WNTC0)")');
      writeln (outfile,outString);
     outString := Concat ('=SELECT(!NTC.MP',SYear,'.1.WNTC)');
      writeln (outfile,outString);
      outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!MP',SYear1,'.WNTC1)")');
      writeln (outfile,outString);
     outString := Concat ('=SELECT(!NTC.MP',SYear,'.2.WNTC)');
      writeln (outfile,outString);
      outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!MP',SYear2,'.WNTC2)")');
      writeln (outfile,outString);
     outString := Concat ('=SELECT(!NTC.MP',SYear,'.0.ENTC)')·
      writeln (outfile,outString);
      outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!MP',SYear,'.ENTC0)")');
      writeln (outfile,outString);
     outString := Concat ('=SELECT(!NTC.MP',SYear,'.1.ENTC)');
      writeln (outfile,outString);
      outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!MP',SYear1,'.ENTC1)"');
      writeln (outfile,outString);
     outString := Concat ('=SELECT(!NTC.MP',SYear,'.2.ENTC)');
      writeln (outfile,outString);
      outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!MP',SYear2,'.ENTC2)")');
      writeln (outfile,outString);
  end;  {WriteMP}
```

```
procedure WriteNOP;
 const
    SrceFile =  '''NOP''';
 begin
    outString := Concat ('=SELECT(!NTC.NOP',SYear,'.0.WNTC)');
      writeln (outfile,outString);
     outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!NOP',SYear,'.WNTC0)")');
      writeln (outfile,outString);
    outString := Concat ('=SELECT(!NTC.NOP',SYear,'.1.WNTC)');
      writeln (outfile,outString);
     outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!NOP',SYear1,'.WNTC1)")');
      writeln (outfile,outString);
    outString := Concat ('=SELECT(!NTC.NOP',SYear,'.2.WNTC)');
      writeln (outfile,outString);
     outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!NOP',SYear2,'.WNTC2)")');
      writeln (outfile,outString);
    outString := Concat ('=SELECT(!NTC.NOP',SYear,'.0.ENTC)');
      writeln (outfile,outString);
     outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!NOP',SYear,'.ENTC0)")');
      writeln (outfile,outString);
    outString := Concat ('=SELECT(!NTC.NOP',SYear,'.1.ENTC)');
      writeln (outfile,outString);
     outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!NOP',SYear1,'.ENTC1)")');
      writeln (outfile,outString);
    outString := Concat ('=SELECT(!NTC.NOP',SYear,'.2.ENTC)');
      writeln (outfile,outString);
     outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!NOP',SYear2,'.ENTC2)")');
      writeln (outfile,outString);
 end;  {WriteNOP}

procedure WriteCT;
 const
    SrceFile =  '''CT''';
 begin
    outString := Concat ('=SELECT(!NTC.CT',SYear,'.0.WNTC)');
      writeln (outfile,outString);
      outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!CT',SYear,'.WNTC0)")');
      writeln (outfile,outString);
    outString := Concat ('=SELECT(!NTC.CT',SYear,'.1.WNTC)');
      writeln (outfile,outString);
      outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!CT',SYear1,'.WNTC1)")');
      writeln (outfile,outString);
    outString := Concat ('=SELECT(!NTC.CT',SYear,'.2.WNTC)');
      writeln (outfile,outString);
      outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!CT',SYear2,'.WNTC2)")');
      writeln (outfile,outString);
    outString := Concat ('=SELECT(!NTC.CT',SYear,'.0.ENTC)');
      writeln (outfile,outString);
      outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!CT',SYear,'.ENTC0)")');
      writeln (outfile,outString);
    outString := Concat ('=SELECT(!NTC.CT',SYear,'.1.ENTC)');
      writeln (outfile,outString);
      outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!CT',SYear1,'.ENTC1)")');
      writeln (outfile,outString);
    outString := Concat ('=SELECT(!NTC.CT',SYear,'.2.ENTC)');
     writeln (outfile,outString);
     outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!CT',SYear2,'.ENTC2)")');
     writeln (outfile,outString);
 end;  {WriteCT}

procedure WriteMM;
 const
    SrceFile =  "'MM'";
begin
    outString := Concat ('=SELECT(!NTC.MM',SYear,'.0.WNTC)');
     writeln (outfile,outString);
     outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!MM',SYear,'.WNTC0)")');
     writeln (outfile,outString);
    outString := Concat ('=SELECT(!NTC.MM',SYear,'.1.WNTC)');
     writeln (outfile,outString);
     outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!MM',SYear1,'.WNTC1)")');
     writeln (outfile,outString);
    outString := Concat ('=SELECT(!NTC.MM',SYear,'.2.WNTC)');
     writeln (outfile,outString);
     outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!MM',SYear2,'.WNTC2)")');
     writeln (outfile,outString);
    outString := Concat ('=SELECT(!NTC.MM',SYear,'.0.ENTC)');
     writeln (outfile,outString);
     outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!MM',SYear,'.ENTC0)")');
     writeln (outfile,outString);
    outString := Concat ('=SELECT(!NTC.MM',SYear,'.1.ENTC)');
     writeln (outfile,outString);
     outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!MM',SYear1,'.ENTC1)")');
     writeln (outfile,outString);
    outString := Concat ('=SELECT(!NTC.MM',SYear,'.2.ENTC)');
     writeln (outfile,outString);
     outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!MM',SYear2,'.ENTC2)")');
     writeln (outfile,outString);
 end;  {WriteMM}

procedure WriteCHT;
 const
    SrceFile =  "'CHT'";
begin
    outString := Concat ('=SELECT(!NTC.CHT',SYear,'.0.WNTC)');
     writeln (outfile,outString);
     outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!CHT',SYear,'.WNTC0)")');
     writeln (outfile,outString);
    outString := Concat ('=SELECT(!NTC.CHT',SYear,'.1.WNTC)');
     writeln (outfile,outString);
     outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!CHT',SYear1,'.WNTC1)")');
     writeln (outfile,outString);
    outString := Concat ('=SELECT(!NTC.CHT',SYear,'.2.WNTC)');
     writeln (outfile,outString);
     outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!CHT',SYear2,'.WNTC2)")');
     writeln (outfile,outString);
    outString := Concat ('=SELECT(!NTC.CHT',SYear,'.0.ENTC)');
     writeln (outfile,outString);
```

```
      outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!CHT',SYear,'.ENTC0)")');
      writeln (outfile,outString);
     outString := Concat ('=SELECT(!NTC.CHT',SYear,'.1.ENTC)');
      writeln (outfile,outString);
      outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!CHT',SYear1,'.ENTC1)")');
      writeln (outfile,outString);
     outString := Concat ('=SELECT(!NTC.CHT',SYear,'.2.ENTC)');
      writeln (outfile,outString);
      outString := Concat ('=FORMULA.ARRAY("=TRANSPOSE(',SrceFile,'!CHT',SYear2,'.ENTC2)")');
      writeln (outfile,outString);
  end;  {WriteCHT}

begin {main}
     outFileName := 'Internal Drive:Staff Planning:Working Plan:NTCLinks';
     rewrite (outfile,outFileName);
    Format1.Style := FixedDecimal;
    Format1.Digits := 0;
    for i := 0 to numberOfYears-1 do
    begin
         Num2Str(Format1,Num2Extended(startYear+i),SYear);
         Num2Str(Format1,Num2Extended(startYear+i+1),SYear1);
         Num2Str(Format1,Num2Extended(startYear+i+2),SYear2);
      WriteMP;
      WriteNOP;
      WriteCT;
      WriteMM;
      WriteCHT;
     end;  {for}
    outString := '=RETURN()';
      writeln (outfile,outString);
    close (outfile);
end.
```

2.5.31. HireLinksProgram

```
 program HireLinks;

uses
 SANE;

const
   startYear = 1;
  numberOfYears = 10;
   SrceFile  = '''NTC''';

var
   outfile : text;
   outFileName : string[80];
    outString : string[255];
   SYear,SYear1,SYear2 : DecStr;
  I : integer;
  Format1 : DecForm;

 procedure WriteMP;
 begin
      outString := Concat ('=SELECT(!Hire.MP',SYear,')');
       writeln (outfile,outString);
     outString := Concat
('=FORMULA.ARRAY("=(',SrceFile,'!NTC.MP',SYear,'.T.WNTC+',SrceFile,'!NTC.MP',SYear,'.T.ENTC)")');
       writeln (outfile,outString);
   end;  {WriteMP}

 procedure WriteNOP;
 begin
      outString := Concat ('=SELECT(!Hire.NOP',SYear,')');
       writeln (outfile,outString);
     outString := Concat
('=FORMULA.ARRAY("=(',SrceFile,'!NTC.NOP',SYear,'.T.WNTC+',SrceFile,'!NTC.NOP',SYear,'.T.ENTC)")');
       writeln (outfile,outString);
   end;  {WriteNOP}

 procedure WriteCT;
 begin
      outString := Concat ('=SELECT(!Hire.CT',SYear,')');
       writeln (outfile,outString);
     outString := Concat
('=FORMULA.ARRAY("=(',SrceFile,'!NTC.CT',SYear,'.T.WNTC+',SrceFile,'!NTC.CT',SYear,'.T.ENTC)")');
       writeln (outfile,outString);
   end;  {WriteCT}

 procedure WriteMM;
 begin
      outString := Concat ('=SELECT(!Hire.MM',SYear,')');
       writeln (outfile,outString);
     outString := Concat
('=FORMULA.ARRAY("=(',SrceFile,'!NTC.MM',SYear,'.T.WNTC+',SrceFile,'!NTC.MM',SYear,'.T.ENTC)")');
```

```
               writeln (outfile,outString);
           end;  {WriteMM}

          procedure WriteCHT;
          begin
              outString := Concat ('=SELECT(!Hire.CHT',SYear,')');
               writeln (outfile,outString);
             outString := Concat
('=FORMULA.ARRAY("=(',SrceFile,'!NTC.CHT',SYear,'.T.WNTC+',SrceFile,'!NTC.CHT',SYear,'.T.ENTC)")');
               writeln (outfile,outString);
           end;  {WriteCHT}

          begin {main}
              outFileName := 'Internal Drive:Staff Planning:Working Plan:HireLinks';
             rewrite (outfile,outFileName);
            Format1.Style := FixedDecimal;
            Format1.Digits := 0;
            for i := 0 to numberOfYears-1 do
            begin
                 Num2Str(Format1,Num2Extended(startYear+i),SYear);
              WriteMP;
              WriteNOP;
              WriteCT;
              WriteMM;
              WriteCHT;
             end;  {for}
            outString := '=RETURN()';
              writeln (outfile,outString);
            close (outfile);
                 end.
```